#TerritorialAgenda
A future for all places

# Territorial Impact Assessment (TIA) Manual

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Project Consortium (Partners):

Poland, Ministry of Development Funds and Regional Policy (Leader)

Czechia, Ministry of Regional Development

Germany, Federal Ministry of Housing, Urban Development and Building and the Joint Spatial Planning Department of Berlin and Brandenburg

The Netherlands, Ministry of the Interior and Kingdom Relations

Slovenia, Ministry of Natural Resources and Spatial Planning

Supporting Partners:

European Comission (DG Regio)

European Committee of the Regions

EGTC ESPON

Network of Territorial Cohesion Contact Points (NTCCP)

Spatial Development Committee of the German-Polish Intergovernmental Commission for Regional and Cross-Border Cooperation

ÖIR



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# List of acronyms and abbreviations

| | |
|---|---|
| BT 2050 | Territorial scenarios for the Baltic Sea Region |
| CAP | Common Agricultural Policy |
| CB | Cross-border |
| CBC | Cross-border cooperation |
| CGE | Computable General Equilibrium |
| CoR | Committee of the Regions |
| DG REGIO | Directorate General for Regional and Urban Policy |
| DID | Difference-in-differences |
| DIS | Doradztwo i Szkolenia w Samorządzie (Consulting and Local Government Trainings) |
| EC | European Commission |
| EFTA | European Free Trade Association |
| EFWP | European Funds for Western Pomerania 2021-2027 |
| ESDP | European Spatial Development Perspective |
| ESPON | European Observation Network for Territorial Development and Cohesion |
| EU | European Union |
| FTV | Final tolerance threshold |
| FUA | Functional Urban Areas |
| GDP | Gross domestic product |
| GRD | Geographic regression discontinuity design |
| IAM | Impact Assessment Matrix |
| ITV | Initial balance of the system |
| JRC | Joint Research Centre |
| LAU | Local Administrative Units |
| LUISA | Land Use-based Integrated Sustainability Assessment |
| LUMP | European Land Use Modelling Platform |
| MCA | Multi-criteria analysis |
| MFiPR | Polish Ministry of Development Funds and Regional Policy (Ministerstwo Funduszy i Polityki Regionalnej) |
| NACE | Nomenclature statistique des activités économiques dans la Communauté européenne (The Statistical Classification of Economic Activities in the European Community) |
| NGOs | Non-governmental organisations |
| NPV | Net present value |
| NUTS | Nomenclature of territorial units for statistics |
| P4P | Pay-for-performance |
| PBL | Planbureau voor de Leefomgeving (Netherlands Environmental Assessment Agency) |
| RDD | Regression discontinuity design |
| SEZ | Special Economic Zone |
| SIZ | Special Inclusion Zone |

| | |
|---|---|
| SPIMA | Spatial dynamics and strategic planning in metropolitan areas |
| STeMA | Sustainable Territorial Approach to Environmental/Economic Management |
| STFT | Systemic territorial functional typologies |
| SURS | Statistični urad Republike Slovenije (Statistical Office of the Republic of Slovenia) |
| TA 2030 | Territorial Agenda 2030 |
| TCASI | Territorial Cohesion Aggregate Statistical Index |
| TEDAM | Territorial Data Analysis and Modelling |
| TEN | Trans-European Networks |
| TIA | Territorial Impact Assessment |
| UCL | University College London |
| UK | United Kingdom |
| UL | University of Lubljana |
| UN | United Nations |

# 1. Introduction

This manual is the result of work carried out within the pilot action *Understanding how sector policies shape spatial (im)balances: region-focused Territorial Impact Assessment,* within the framework of the implementation of the Territorial Agenda 2030 and coordinated by the Polish Ministry of Development Funds and Regional Policy. The action also involves partners from the Czech Republic (Ministry of Regional Development), Germany (Federal Ministry of Housing, Urban Development and Building and the Joint Spatial Planning Department of Berlin and Brandenburg), Slovenia (Ministry of Natural Resources and Spatial Planning) and the Netherlands (Ministry of the Interior and Kingdom Relations), who carried out their pilot actions, described in later chapters of the manual.

This manual has been jointly prepared by the Polish Ministry of Development Funds and Regional Policy subcontractors, a science foundation Center for Social and Economic Research (CASE) and a consulting company Ecorys Poland, with inputs from the aforementioned members of the pilot action. The Polish Ministry of Development Funds and Regional Policy coordinated the work.

## 1.1. Territory as an object of public policy

In recent decades, there has been a growing awareness among both researchers and public policy makers that phenomena such as development and well-being need to be considered in spatial terms. The characteristics of specific territories, the relationship between them, the possibility of movement, or the territorial coverage of public interventions undertaken are crucial to the ultimate effectiveness of the actions taken. A gradual shift in public policy thinking has led to the emergence of a "place-based" policy trend, different from the previously dominant "place-neutral" approach (Churski, 2018).

The call for interventions tailored to a given territory, taking into account its endogenous potential, has been strongly reflected in analytical documents and strategies at both the national (Long-term National Development Strategy[1] and the National Strategy of Regional Development) and European levels (ESDP, Territorial Agenda 2020[2], 2030). This new approach has resulted in insights that have significantly changed how public policies are designed. For example, the following facts are fundamental to the territory-oriented approach:

- Infrastructure investments have a strong and long-term territorial impact. This is because they change the functions of territories in ways that are difficult to reverse (or irreversible).
- Sectoral policies, although often appearing to prescind from territorial differences, affect different spatial structures differently: urban/rural, less and more developed areas, and should therefore take them into account.
- Policies other than investment, for example, those related to human and social capital, are only seemingly detached from the territory[3]. In fact, their impact is highly territorial. However, as a consequence of the mobility of human capital, the territorial effect of interventions is more challenging to estimate. It may be subject to stronger diffusion than in the case of infrastructure investments.
- Any change affecting the environment has a strong territorial effect, which does not necessarily coincide with the administrative territory in which the intervention occurred.
- Different sectoral policies may have other overlapping territorial effects. There is, therefore, a strong rationale for strategic documents at the national level to play a coordinating role concerning the combined territorial impact of policies implemented by other levels of administration.

## 1.2. What is Territorial Impact Assessment?

The term *Territorial impact assessment* (TIA) was never formally defined. However, it can be broadly understood as a process to investigate and assess the nature and intensity with which policies, strategies, programmes, and

[1] The document contains multiple references to the territorial dimension of policies, including the statement that "from the point of view of long-term challenges Poland faces, it is worth noting the special role of development geography and development generation. The problem of differences between different areas of the country, uneven speed of development – is a fundamental issue. Its solution should be seen as a developmental priority, in the sense of understanding the importance of the territorial dimension of development". (p. 27 of the Long-term National Development Strategy). The full text of the Long-term National Development Strategy can be found at: http://kigeit.org.pl/FTP/PRCIP/Literatura/002_Strategia_DSRK_PL2030_RM.pdf

[2] In the ESDP 2020 Territorial Agenda we read that "the coherence of EU and national policies is of utmost importance for territorial cohesion" and that the policies themselves "should take territorial differences into account, with interventions tailored to the specific type of territory and the use of territorial approaches in planning". The full text of the 2020 Territorial Agenda can be found at: https://www.nweurope.eu/media/1216/territorial_agenda_2020.pdf

[3] "Strengthening territorial development equalization also relies on the development of social capital, and innovation requires the appropriate macroeconomic framework". (p. 46 of the Long-term National Development Strategy).

legislative proposals impact specific territories and affect spatial development and territorial cohesion. It originates from various studies on the impact of political decisions on spaces or territories. This analysis can be carried out on a European, national, regional or local level. TIA can consider policies' economic, social and environmental impact, but its focus remains on territorial variation. In general, TIA is applied in ex-ante analysis to design a given intervention, but it can also constitute a part of monitoring a policy during its implementation, as well as being employed in ex-post studies.

Althought *Territorial Impact Assessment* is a strictly EU term (Nosek, 2019), the roots of TIA can be traced to older practices of policy impact assessment, born in the 1970s, such as Environmental Impact Analysis (EIA), Social Impact Analysis (SIA), or the direct predecessor of TIA, Urban Impact Analysis (UIA). Environmental and urban assessment practices were implemented in the United States following the National Environmental Policy Act[4] (NEPA) and the 1978 Urban Policy Report[5], which introduced mandatory EIA and UIA, respectively, for federal agencies (Evers, 2011).

Starting in 2013, TIA was promoted as a tool for impact evaluation and later adopted by the European Union. In its opinion from July 2013[6], the Committee of Regions calls for "territorial impacts to be assessed right from the outset on an equal footing to economic, environmental and social impacts when assessing sectoral policies, not least with regard to their impacts at various local and regional levels, including their financial repercussions and interactions between territorial levels". It also highlighted that carrying out TIA should be considered for every policy rather than being limited to only policies with an explicit territorial dimension or risk of significant asymmetric territorial impacts. Besides evaluating the real impact of policies, TIA is also to guarantee that the local and regional level is involved, that spatial development is practicable, relevant and territorially linked, and that funds are effectively deployed. Moreover, the document also highlighted that, under the two key treaties forming the basis of the European Union (Treaty on European Union and Treaty on the Functioning of the European Union), all policy areas are to contribute to the objective of territorial cohesion and to strengthening economic and social cohesion[7]. The European Commission has also highlighted the importance of TIA in the context of designing policy in the Better Regulation Toolbox, which states that policy impact assessments should systematically consider territorial impacts when they are relevant. There are indications that they will be significant for different territories of the EU, as this enables policies better to consider the needs and specificities of different EU territories, facilitating cohesion across the Union (European Commission, 2021).

Two significant developments substantially contributed to the dissemination of TIA, as well as to the deepening of research in this direction. The first was the adoption of the *European Spatial Development Perspective* (ESDP)[8] in 1999, defining territory as a new dimension of European policy. Since then, lack of territorial cohesion and the excessive polarization of development have been recognised as undesirable phenomena, hindering the sustainable impact of policies and negatively influencing their evaluation. The second was the signing of the Lisbon Treaty[9] and its recognition of territorial cohesion as one of the values to be promoted by the EU, together with solidarity and socio-economic cohesion.[10] The Treaty also stressed that "particular attention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps".[11]

It should be noted that, although formally speaking, TIA is mainly used to assess European policies, national, regional and local policies may also impact territories differently and require similar impact assessments. In such cases, elaborating a TIA may be either an independent procedure or part of the policy design process, combined with other analyses. Although currently, documents produced for TIA at the national or regional level rarely use the term "TIA" itself, they often de facto refer to the issue of the socio-economic diversity of territories and how the policy impacts it. Thus, territorial impact assessment is not an entirely new task for national, regional and local public administrations.

TIA studies relating to intended or already implemented European Union-level policies are common practice. An example is the ex-ante analysis of the territorial impact of so-called climate neutrality on the socio-economic devel-

[4] The full text of the National Environmental Policy Act can be found at: https://www.govinfo.gov/content/pkg/COMPS-10352/pdf/COMPS-10352.pdf

[5] United States Department of Housing and Urban Development. (1978). The President's National Urban Policy Report: 1978. US Government Printing Office, Washington, DC.

[6] Opinion COTER-V-038.

[7] Under Article 3 of the TEU and in connection with Articles 174, 175 and 349 of the TFEU

[8] The full European Spatial Development Perspective can be found at: https://ec.europa.eu/regional_policy/sources/docoffic/official/reports/pdf/sum_en.pdf.

[9] The full text of the Lisbon Treaty can be found at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:12007L/TXT.

[10] The Treaty replaces the previous "socio-economic cohesion" with "economic, social and territorial cohesion".

[11] Article 158, Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community.

opment of sub-regions in all EU countries by the European Committee of the Regions in 2019 (CoR 2019). In this case, one of the more well-known TIA procedures, the Espon TIA Tools discussed further in Chapter 4 and the Annex of this report, was used.

An example of the territorial impact assessment of policies implemented at the regional level is the study "Evaluation of the impact of EU funds on the territorial polarisation of the Łódzkie region and economic restructuring processes". In this case, the territorial scope of the evaluation covers one of the Polish voivodeships (EU NUTS 2 level). Although the study report (Łódzkie Voivodeship, 2014) does not use the term "TIA", it has many characteristics of this approach. However, unlike the climate-neutrality study cited in the previous paragraph, the Łódź Province study is ex-post, as it concerns the already closed 2007-2013 financial perspective.

The study "Evaluation of the impact of the European Funds for Silesia programme for 2021-2027" serves as another example, this time of ex-ante analysis. The study, which combines quantitative and qualitative methods, was based on several data sources commonly used in TIA, such as strategic and programme documents, statistical data, and in-depth and group interviews with experts and stakeholders. The researchers focused mainly on evaluating the logic of the intervention but also considered the extent to which it responded to the challenges faced by the region. Moreover, the study also scrutinized the programme indicators and evaluated how the programme would contribute to implementing horizontal policies. The authors concluded the report with a list of recommendations and additions to the programme document.

At the level of local territorial units, analyses are also carried out to assess local authorities' policies in the context of the territorial differentiation of needs and conditions. For example, in 2015, the municipality of Ryglice, located in southern Poland (Małopolskie Voivodeship), carried out an "Assessment of the impact of organisational changes in education on its operating costs" (DIS, 2015). The authors of the final report described their task as "providing the leading authority with independent, reliable information on the quality of the management of the school network in the municipality, the efficiency of the use of the allocated educational subsidy and the costs of operating school facilities in the municipality". Again, no direct reference to TIA methodology is made here, but the main reason for commissioning the study was the variation in costs and educational operating conditions between localities within the municipality. Moreover, the proposed organisational solutions and associated simulations deal with changes in the school network and their potential consequences for individual territories.

Many TIAs concern the territory of a single country or a smaller administrative unit within that country. However, in times of open borders and economic integration of countries, the impact of public interventions, and sometimes even their direct implementation, often crosses national boundaries. Cross-border areas are, therefore, an essential subject of study. An example analysis of the spatial impact of cross-border interventions is the ex-post study of the impact of the Greek Egnatia road network on the socio-economic cohesion of south-eastern European regions (Gavanas et al., 2018). The analysis covers the territories of seven countries: Greece, Albania, Macedonia, Italy, Serbia, Bulgaria, and Turkey, with most of the regions studied being cross-border in nature.

## 1.3. Who is this manual intended for

This manual was written with representatives of public administrations, at any level, in mind. In particular, we address it to institutions that initiate and have a direct interest in the results of policy analyses and who can also influence the shape of the policies under evaluation. Most often, it is also the owner of the policy, e.g. the analysed strategy, plan, and programme, who is responsible for conducting the TIA procedure. This can be (in the case of Poland), e.g. the Council of Ministers, Prime Minister, Minister, Marshal of a Voivodship, Starost, Mayor, or an association of municipalities[12]. In this text, we often use the phrase "the team leading the TIA", which refers to the team appointed by the policy owner to carry out the TIA procedure. However, we can also imagine TIA being carried out at a different administration level - this may happen in cases where central solutions (at the EU or national level) are being analysed, and the TIA is carried out at the regional or local level. The results of such a TIA procedure can then be used by local or regional government representatives in their dialogue with other levels of administration on the desirable or undesirable effects of the policy and serve to help resolve conflicts between policies.

The TIA lead team is responsible for the key decisions on the methodological approach and tools used for the TIA. This does not mean that all of the analytical work falls on the shoulders of the administration. It is advised to use external experts for some tasks and decisions, especially those requiring specialised skills. Nothing also stands in the way of inviting them to join as permanent leadership team members to support critical decisions.

However, the owner plays a crucial role in executing the TIA procedure properly. The direct involvement of those responsible for implementing a given intervention not only fosters an optimal match between methods and stakeholder needs but also increases the chances of actu-

[12] One example of this is the Association of Tourism Municipalities of the Dynowskie, which was established in 1996 and is currently in the process of developing a joint Supra-Local Development Strategy for the years 2022-2030. More information can be found at: http://pogorze-dynowskie.pl/

ally using the TIA results in the intervention design. Representatives of public administrations must therefore be knowledgeable about the possible analytical approaches to TIA, together with their advantages and disadvantages.

## 1.4. Contents of the manual

The manual consists of seven chapters. The second chapter deals with the fundamental methodological issues to be resolved in the first phase of preparing a TIA and how the choices made related to the nature of the policy or intervention being evaluated. This chapter also briefly summarises the review of the available TIA methods.

The third chapter is devoted to the participatory elements of policy territorial impact studies. The direct participation of the stakeholders of a given intervention is highly desirable, both due to their unique knowledge and the inclusive and legitimising nature of participatory action. This is particularly important in the case of ex-ante studies, which serve to optimise a given policy before its implementation. Even when basing the analysis on quantitative data, it is essential to triangulate their results with other sources of knowledge, in particular experts and local stakeholders.

In the fourth chapter, we present our original procedure proposal, SPA(TIA): a participatory method allowing users to quantify the study results and present them as synthetic indicators. This approach also allows us to take into account the diffusion effects between areas subject to policy intervention and other areas, including the cross-border impact of the policy. It extends existing participatory methods (ESPON, TARGET_TIA).

In the fifth chapter, we present the lessons learnt from selected pilot applications of TIA implemented by project partners within the framework of the project *Understanding how sector policies shape spatial (im)balances: region-focused Territorial Impact Assessment.* In the chapter's first part, we focus on TIA in cross-border projects. We cover the application of an original participatory method based on EATIA (ESPON and Territorial Impact Assessment), adjusted for TIA in a cross-border context, to the cultural policy in Slovenia in the regions of Obsotelje and Kozjansko and the cross-border cooperation of the urban areas of the municipalities of Šempeter-Vrtojba, the City Municipality of Nova Gorica and Gorizia in Italy. We also describe the application of a TIA method developed by the Czech Ministry of Regional Development to study the effects of European funds in selected areas on the Jeseník region, a pilot project in Germany and Poland – a case study concerning the construction of a cross-border railroad connecting East-Brandenburg and Western Poland as well as a pilot project conducted in the Netherlands: a case study of South Limburg. The second part of the chapter considers pilot action projects without a cross-border dimension, namely the results of a pilot project concerning the Europeanisation of spatial planning in the Netherlands and the Polish Mutually Needed pilot programme.

In the sixth chapter, we provide the key recommendations for the use of TIA methods.

In the Annex to the manual, we present a detailed overview of the main methods used in TIA analysis. These include participatory methods used in ex-ante, ongoing and ex-post analyses and simulation tools used in ex-ante analyses. Some of the methods have been developed by individual researchers, while others were developed within the framework of EU-funded research projects (e.g. under the ESPON initiative) or through the work of the European Commission (e.g. JRC Joint Research Centre). Special attention was given to TARGET_TIA, the ESPON TIA Tool and TIA Quick Check, for which, in addition to literature and case study analysis, implementation workshops in the Polish-German area of connections were conducted, along with an in-depth study of their suitability for policy analysis at different levels.

# 2. Where to start?

In this chapter, we define the most important concepts related to TIA, namely territorial sensitivity and policy exposure, and offer examples of situations in which a TIA is desirable. We also refer to TIA methods and their choice depending on the type of policy under study and the strategy or instruments through which it affects the territory. We analyse the issue of the timeframe of the analysis, i.e. the difference between ex-ante (evaluation of the policy before its adoption), in progress (evaluation of the policy during its implementation) and ex-post (evaluation of the policy after its implementation), the degree of detail of the analysis and the issue of availability of statistical data. Finally, considering the above factors, we present a sample decision tree intended to guide this manual and the TIA process. It can be used to select an appropriate territorial impact assessment method.

## 2.1. Necessity check: is a TIA necessary?

TIA can be applied to any policy that has an impact on the analyzed territory. Such policies include EU and national policies as well as policies introduced at the regional or local levels. TIA requires good knowledge of the goals and instruments of the analyzed policies. The better the policy instruments are defined in the underlying policy documents, the more precise the TIA can be. Strategies, plans, international agreements, laws, regulations, etc. can all be the basis of TIA.

Before a full TIA is carried out, it is worth checking whether it is necessary. The so-called "necessity check" is the procedure for checking the need for a territorial impact analysis (e.g. ESPON, 2020). It is carried out using criteria that check whether the studied policy or strategy will likely impact the territory under investigation. This requires consideration of the scale and direction of the possible impact (positive/*negative*)[13].

Thus, whether or not a TIA should be conducted depends on how significantly the analysed policy is expected to impact the territory. Based on the available documents defining the policy and implementation instruments, it is essential to consider whether the policy impacts the functional and spatial model of the territory. TIA can be applied to policy instruments with a spatial dimension embedded within them and explicitly affecting the territory, but also to policies that do not seem to have such a dimension. Investment policies (e.g. transport, industry) tend to have a significant territorial impact: they change structures to a large extent and over the long term in ways that are often difficult or impossible to reverse. At the same time, policies not intended to address a specific territory can still have a significant and differentiated impact on it. This includes, for example, sectoral policies that have a differential effect on spatial structures (urban or rural, less and more developed areas) and should, therefore, adequately address them. Seemingly non-territorial policies may have a long-lasting impact on the situation of a territory, as they affect the economic situation of its inhabitants, internal migration, private and public investment activity, etc. In their case, TIA can answer questions relating to this very differential impact, considering both desirable and undesirable policy effects.

Considering the necessity check and the TIA methods, we will use two types of characteristics of the territories under study: territorial sensitivity and exposure. These terms are formulated in the ESPON TIA studies[14] , but in other methods, the concepts are similar (although their names and exact definition may differ somewhat). We introduce these concepts relatively early in this manual, as they will accompany us during the necessity check and the potential implementation of the TIA itself. Thus:

- Territorial sensitivity - describes a region's vulnerability to the impact of the policy based on regional characteristics, such as social, economic or geographical features. It is, therefore, tied to the region (voivodeship, municipality, county or other territorial units) and will influence whether a policy is needed and to what extent it will improve the conditions in that region. For example, in the case of labour market policies (e.g. minimum wage policies, employment support policies, or support for the unemployed), the sensitivity of a region will be influenced by local labour market characteristics (e.g. unemployment rate, wage levels, labour force participation). Territorial sensitivity depends primarily on the type of policy being analysed, i.e. an assessment of labour market policy will use a different set of regional characteristics for sensitivity assessment than in the case of other policies, e.g. health policy, cultural policy, education policy.
- Exposure - describes the intensity with which a policy affects the territory[15] , distinguishing between regional exposure (affecting spatial structures) and area exposure (affecting specific areas, such as surface water quality, emissions, etc.). Thus, exposure is directly linked to the policy in question. In some

[13] A related procedure is the so-called equivalence check , which aims to assess whether the policies will worsen the living conditions of the inhabitants of the studied territories and whether the positive impacts of said policies on these territories will not come at the expense of negative effects in other territories. See for example the German approach https://www.bmi.bund.de/SharedDocs/downloads/DE/veroeffentlichungen/themen/heimat-integration/gleichwertige-lebensverhaeltnisse/gleichwertigkeits-check.pdf?__blob=publicationFile&v=1

[14] See for example ESPON (2012a).

[15] See for example ESPON and ÖIR, BEST, OTB, PBL (2011).

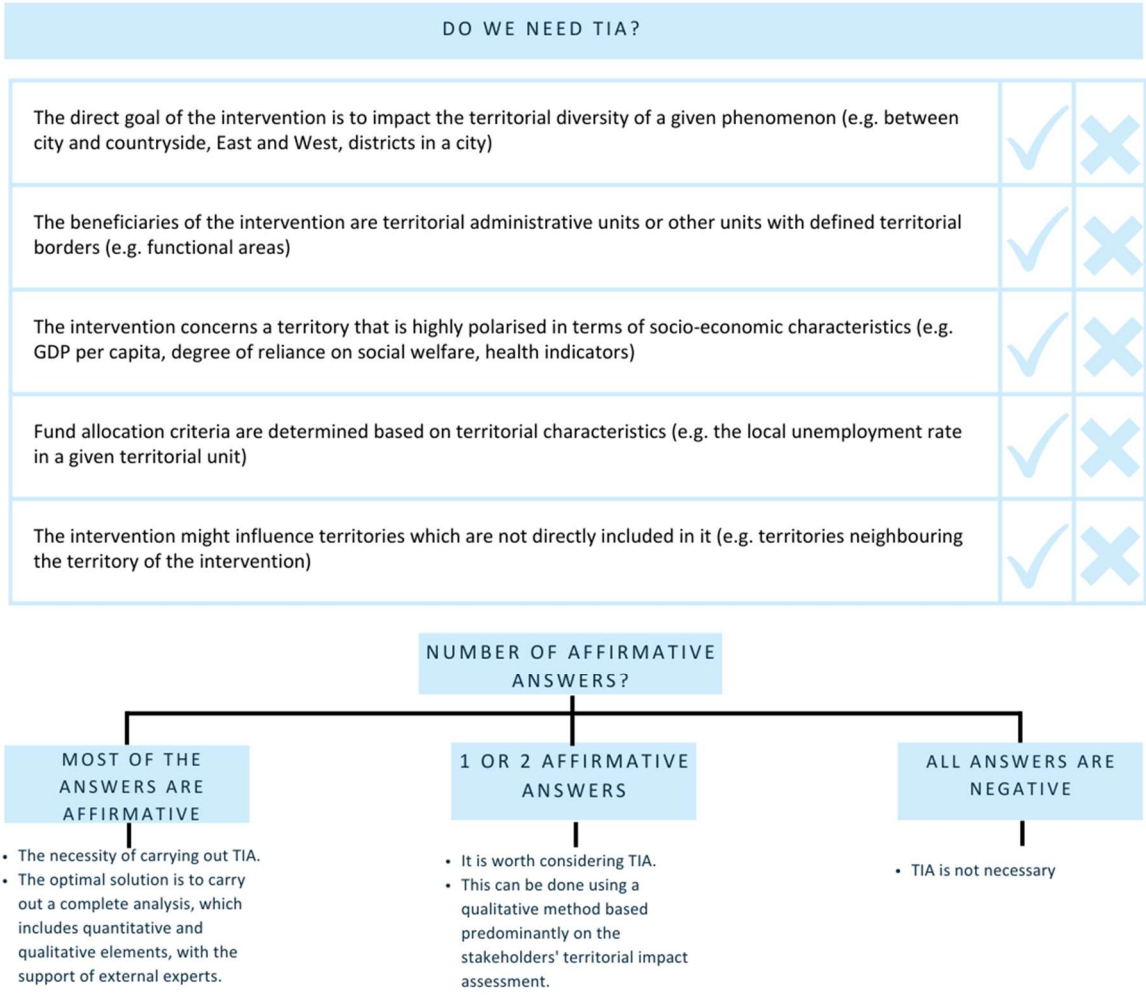
cases, the measurement of policy intensity is relatively straightforward and implied by the documents defining the policy. For example, in the case of analyses of cohesion policy, it is known what amount of funding (e.g. in relation to population) is allocated to the regions concerned. In other cases, such as policies to support particular sectors of the economy (and therefore oriented towards those sectors rather than directly towards territories), the exposure of areas may not be *explicitly* defined in the documents. Still, due to the uneven distribution of industries across the national territory, the impact of support policies may nevertheless be asymmetric.

When carrying out a necessity check, the following issues should be considered based on an analysis of statistical data for the territory under study, an analysis of policy documents and expert knowledge:

- Is the phenomenon directly or indirectly affected by the policy under study diversified within the territory under investigation? Is the area affected by the policy characterised by high diversity in terms of socio-economic characteristics? In other words, does territorial sensitivity vary in the context of the policy under study? Building on the previous examples: if the policy concerns the labour market and labour market indicators are strongly differentiated in the territory under investigation, the answer is probably "YES". If the policy concerns a selected sector of the economy and the businesses operating in that sector are located only in a small area, the answer is also "YES". If the territorial sensitivity is not very diverse or the policy is not expected to have an asymmetric impact on the territory, the answer is "NO". The answer to this question can be provided by analysing the variation in statistical data that illustrates the indicators directly and indirectly affected by the policy in question. For example, the labour market policy is not likely to affect a territory that is not significantly economically active (an example could be an area that is mainly a forest). Therefore the impact of the policy is not worth studying.
- Does the policy under study have an embedded territorial dimension, i.e. does it differentiate its impact on different regions, and does exposure to it vary within the territory under study? Does the policy affect differently the rural/urban/peripheral area or other spatial structures of the territory targeted? For example, the policy to eliminate digital exclusion in Poland[16] is oriented towards areas with limited access to the Internet. This access is very differentiated territorially, with the presence of so-called "white spots" of Internet access. Thus, the impact of the policy on different areas will vary, and the answer to the question is "YES". If the policy affects other areas under investigation to a similar extent, the answer to the question will likely be "NO". The territory's exposure to the policy can be assessed by analysing its assumptions and comparing them with the sensitivity data discussed in the previous section. A region will be highly exposed to a policy when, among other things, the objective of the intervention is to change the character of the territory or the living conditions of its inhabitants, when the direct beneficiaries of the intervention are territorial units or when the criteria for the allocation of resources are set based on territorial characteristics.
- Can a policy also affect areas where it was not introduced through a diffusion effect? For example, a local policy that increases teachers' salaries in one area may decrease the availability of teaching staff in the neighbouring areas, which would mean that the answer is "YES". However, if the policy is not expected to affect neighbouring territories significantly, the answer will be "NO". An assessment of diffusion can be carried out primarily based on expert knowledge, in combination with an assessment of the differential sensitivity of the territory under study, in particular, an analysis of neighbouring areas with differential sensitivity and exposure. This type of impact can be especially relevant for border areas, affected by the policies of both of the neighbouring countries, or in cases where the policies or strategies of regions are analysed, given that they usually focus on the situation of those regions and do not take into account the impact on neighbouring regions.

[16] As part of the pilot action, this policy was one of the examples used to test existing TIA procedures.

**Figure 1. Necessity check**




Source: own elaboration

All of the above criteria can be tested by answering the questions presented in Figure 1. Some of them require only an analysis of the documents that describe the policy in question (purpose of the intervention, its beneficiaries, and the allocation of funds). Others (regional territorial diversity, diffusion effects) require the analysis to be supported by statistical data and expert knowledge. Conducting a TIA is advisable for policies in which a territorial dimension is embedded, i.e., policies targeting certain spatial structures or specific regions. For national (e.g. tax policy, labour market policy, social policy, agricultural policy or industrial policy) or EU-level policies (e.g. cohesion policy, agricultural policy), a sensitivity and diffusion analysis may be necessary to assess the necessity of a TIA process.

An analysis of the rationale for conducting a TIA can also help in choosing the methodological approach to carry it out. Suppose a strong rationale for conducting a TIA is found (affirmative answers to most of the questions included in Figure 1). In that case, it may be worth considering a more methodologically sophisticated approach, which emphasises statistical data analysis and the simulation of alternative scenarios and enlists the help of external experts for tasks that may go beyond the competence of the TIA planning team. On the other hand, the limited rationale behind conducting a TIA may lead to a procedure with a stronger emphasis on a qualitative assessment based on stakeholder feedback and thus not requiring specialised statistical methods.

It should be emphasised that the optimal solution in each case is a creative combination of quantitative and qualitative approaches and that the TIA method should be individually selected, taking into account not only the characteristics of the analysed intervention but also the purpose for which the study is being carried out and the resources available. Indeed, as we will show in the next section of the manual, there is no one-size-fits-all TIA method.

## 2.2. Why is there no universal TIA method?

Territorial impact assessment is a comprehensive concept. The way policies are analysed depends on many considerations. These are, among others, different perspectives of the analysis (ex-post, ex-ante and ongoing), different policies and the scope of their impact, different decision-makers, and different availability of statistical data. Therefore there is no one-size-fits-all method for the territorial impact assessment. This is because such complexity of the problem would require a universal method to be highly flexible and also incredibly complex, which in turn would require enormous resources to implement. On the other hand, applying universal methods to very complex cases could result in conclusions that are too general or plainly wrong. In this subsection, we analyse the considerations that make it necessary for the method of territorial impact assessment to be tailored to a particular case.

### Analysis period: ex-post, ex-ante and ongoing. Quantitative, qualitative/expert analysis

*Impact assessments* are primarily conducted for policies at the planning stage. Ex-post analyses, on the other hand, are part of the evaluation process of policies, i.e., assessing their impact after implementation. Regardless of whether we are carrying out an ex-ante or ex-post analysis, the criteria outlined earlier can determine the need for a territorial impact assessment analysis, or TIA.

As with other examples of policy impact analysis or policy evaluation, the ex-ante and ex-post analysis approaches differ. In an ex-ante approach, analysis concerns issues burdened with considerable uncertainty, such as the extent to which a policy will actually affect the variables under study (dependent on both observable and hard-to-observe or measure determinants). Ex-ante analysis can therefore be based on the following:

- expertise, which can be, among other things, based on experts' experiences with implementing similar policies and their impacts, familiarity with the analysed territory, or ability to assess the intervention logic of the policy under consideration.
- available statistical data indicating the variation in vulnerability and exposure of the territory,
- simulation tools drawing on quantitative methods and theory (primarily economic) to quantify expected future effects.

For some policies, e.g. tax policy, trade policy or social policy, simulation and other quantitative tools can show quite precisely the selected effects of the policies under study. For policies in different spheres of social life (e.g. cultural policy, education policy), the weight of expert knowledge can be much more significant, as there are no quantitative tools to assess policies ex-ante. This applies not only to TIA analysis but also to the impact assessment process as a whole.

For ongoing analyses, the choice of tools depends on the delay with which the effects of the examined policy are likely to materialise. If a significant delay is expected, ongoing analyses may use the same methods as ex-ante analyses. However, if the territorial effects of policy implementation could be immediate, an ex-post type of analysis seems more reasonable.

The ex-post analysis is a perspective in which the results of a policy should already be visible to the researcher when the impact analysis is performed. At first glance, it would seem that the effectiveness of such a policy would be easy to assess based on analysing changes in key indicators measuring its results. However, the main problem, and one of the most essential questions in statistics and econometrics, lies in determining if there is a causal relationship between a policy and the observed indicators. The primary approach used to assess the effects of a policy is counterfactual analysis, in which territorial units subject to the policy are compared with a control group of territorial units not subject to the policy over the course of the same period. This control group must be comparable[17] to the policy-treated group, as policy coverage alone may result from differences between territorial units, making it impossible to infer causal relationships. In the Annex of this manual, we present a range of quantitative methods that enable counterfactual analyses of territorially differentiated policies.

However, it should be noted that, even in ex-post analysis, reliance on quantitative research can be problematic. This is due to, among other things, the limited availability of regional statistical data, difficulty measuring the variables affected by a policy, difficulty defining outcome variables in the case of policies or strategies defined very broadly, or the lack of an adequate control sample (in the case of policies that affect all regions). In these cases, statistical data may offer some support for analysts carrying out the TIA, but a complete territorial impact analysis will rely on triangulation, i.e. combining conclusions from statistical data with expert knowledge, supported by consultations at the local or regional level. Quantitative simulation models, typically used in ex-ante analyses, can also be helpful in this type of ex-post analysis. For example, the European Commission uses general equilibrium simulation models in ex-post evaluations of EU trade policy. Still, the effects of these agreements often only emerge

[17] Similarity should apply to important characteristics of the territory which could affect the impact of policy, including the territorial sensitivity indicators.

over a long period, which means they do not appear in empirical data.

Ongoing analyses require a hybrid approach, which uses ex-ante and ex-post analysis elements. In-progress empirical data may be available to show the impact of a policy – f such data exists, it can be used for statistical analysis. At the same time, incoming data can be fed to the tools used in ex-the ante analysis: simulation models and public and expert consultations. This improves the precision of the models and enhances experts' knowledge. This type of TIA- ongoing- is an iterative process, i.e. it can be carried out between successive phases of policy implementation, provided that there is new knowledge about the effects of the policy in the previous phases.

### The depth of analysis, diversity of decision-makers and extent of policy impact

As mentioned earlier, territorial impact analyses were initially used mainly to evaluate European policies. Consequently, available materials from leading institutions involved in the[18] process refer to the entire EU territory. Therefore, these analyses are carried out at a high level of data aggregation, i.e. the regions considered are generally broadly defined NUTS-2 and NUTS-3 units. However, national (including sectoral), regional and local policies may also have a noticeable impact on territories and require a similar territorial impact assessment.

The scale of the territory is relevant to carrying out a TIA. The scalability of policy impact evaluation is limited, and assessment of the same policy in different-sized territories may lead to different conclusions. Evaluation on the local level usually allows for an examination of the strength and pace of uptake. Still, it is simultaneously much less able to assess neighbourhood, supra-regional or national effects. On the other hand, evaluation at the national level, which considers the global impact on economic and social development, does not allow for identifying local variations in response to this policy. This means that evaluation has to be carried out at different levels, allowing problems to be addressed from a specific level of analysis.

Every policy has its own territorial reach, dependent on the territorial jurisdiction of the authority mandated to develop and adopt it (authorise it). A national policy has a smaller reach than EU directives, so any analyses of its impact will cover a smaller territory. When implementing policies in a given territory, policymakers may be interested in a more thorough analysis than that applied to EU policies. This could take the form of a study that considers the diversity of territories at the level of narrowly defined territorial units (in the case of Poland, these may be, e.g. counties, municipalities, functional areas, or any other defined territories). Moreover, representatives of different levels of government may have different preferences regarding the depth of analysis. The demand for less detailed analyses is likely to be higher at the central level than at the provincial and county levels, as local and county decision-makers will emphasise the impact of policies on individual municipalities.

The analytical approach will also depend on the type of policy under examination. Some policy documents may only sketch the overall direction of future policies, while others specifically define the policy instruments. Analysing these general documents will require formulating assumptions on the shape of actual documents. They are subject to uncertainty and need to consider alternative scenarios before the policy is implemented. In contrast, the actual implementation of the policy requires the instruments to be precisely defined. This distinction is also relevant to the choice between qualitative and quantitative methods. Uncertainty regarding the final shape of the instruments implementing a given policy means that analyses must rely on expert knowledge to a larger extent than analyses of narrowly defined policy instruments or investment projects. In their case, quantifying effects based on quantitative tools might be possible and may provide detailed and precise conclusions.

The availability of statistical data is an essential element for the success of a TIA procedure. It is a critical determinant of the choice of study method and detail. The statistical offices of the EU Member States and Eurostat publish data on a regional basis. Their availability and timeliness, however, visibly differ. Internationally comparable Eurostat data is, in most cases, only available at the NUTS-2 or NUTS-3 level, which may be sufficient for policy analysis at the EU level. Still, from the point of view of more detailed analysis at the national level, more detailed may be desirable. Some of the more detailed data is available through National Statistical Institutes. However, for many data types, mainly economic, data more detailed than NUTS-2 or NUTS-3 may not be available due to statistical confidentiality. The small number of units (e.g. enterprises) within a territorial unit makes it possible to identify data at an individual level, which is prohibited by the law on official statistics of the EU Member States.

## 2.3. Specificity of TIA in cross-border regions

Many policies, mainly those implemented within the European Union framework, are administered simultaneously in multiple countries. This immediately leads to important questions regarding the territorial impact of such programmes: Is the intervention identical on two sides of the border? Does it employ the same instruments, allocation criteria, and benchmarks? Even if so, can it be considered identical given the cultural, administrative, and regulatory differences?

[18] See inter alia European Committee of the Regions, 2015, European Commission, Joint Research Centre - RHOMOLO and LOUISA model materials, ESPON, 2012c

Suppose the above questions raise doubts about the homogenous nature of a seemingly analogous policy administered in more than one country. In that case, it might be more informative to run the TIA analysis separately for territories belonging to each country involved rather than considering the whole cross-border area as one. Such an approach may also help to overcome another difficulty related to carrying out TIA for cross-border regions. The TIA applications carried out within the framework of the pilot action show that the availability of internationally comparable data at the local level is poor, i.e. the data often differ in the level of detail, definitions of variables or the time span to which they refer, which makes analyses of cross-border areas particularly difficult. Finally, local and regional data are rarely updated, and much of the available data is outdated.

An exception to the rule of separate analysis is policies that are cross-border by design, i.e. those that aim at the cohesion of the cross-border territory on both sides of the border (an example of such policy are, *among other things*, Interreg A programs, which cover 60% of EU territory and 40% of its inhabitants[19]), where the analysis could be performed jointly for the whole cross-border territory. However, in many cases, this remains a challenge due to the abovementioned obstacles and should consider the international heterogeneity of the analysed territory that is likely to be subject to different national policies and differ in territorial sensitivity.

Finally, even if the policy itself is confined to the territory of one country or a smaller territory within a country but one located near the state's border, we could still observe a diffusion of the territorial impact of such policy across the border. This, in turn, raises questions about the difference between the diffusion of policy impact within one country versus its ability to penetrate the border. The SPA(TIA) method presented in Chapter 3 was tested on this kind of "near-the-border" policy, and it includes some solutions allowing the evaluators to take into account the specificity of the cross-border setting. Similarly, the qualitative method presented in Chapter 4 was also applied to cross-border regions and engaged stakeholders specific to that region.

## 2.4. Choosing the correct TIA method

As mentioned earlier, due to several factors, such as differences in the needs of decision-makers, the types of policies and the feasibility of quantifying their effects, the availability of statistical data and also the period of analysis (ex-ante, ex-post, *ongoing*), there is no single tool that can be used to answer every question that may be posed before a TIA analysis. Thus, this manual aims to facilitate the optimal choice of the tool to be used. To this end, we suggest using a decision tree. The tools and examples of how they can be used are described in further chapters of this manual.

When analysing subsequent branches of this tree mentioned above, let us first consider the options available for ex-ante analysis. In this case, we have two basic method classes to choose from. The first is quantitative analyses, which can be used if appropriate simulation tools based on economic theory exist. An example of this are general equilibrium methods which, however, can only be applied to specific economic issues and require a considerable amount of work and know-how. In all other cases, qualitative participatory methods, based primarily on public consultation and expert knowledge, should be used.

In this manual, we present the most important methods used in practice for TIA. We also offer an original method, SPA(TIA), meant mainly for ex-ante TIA. SPA(TIA) is a participatory method that considers the diffusion effects between areas covered by the policy areas and other areas, including cross-border diffusion. The method draws on the work of other institutions, in particular basing its assumptions on methods proposed by ESPON, but it allows more flexibility in the policy impact assessment process. Ex-ante analyses need to be carried out in the early stages of policy implementation so that it can still be adjusted if it is expected to have a negative impact on the selected territories. Furthermore, where quantitative methods are used, it is worth confronting their results with expert knowledge gathered in the consultation process.

TIA is primarily carried out ex-ante, while ex-post analysis, in principle, already belongs to the field of policy evaluation. The problem of policy evaluation is the subject of many already available studies and textbooks[20]; therefore, in this manual, we focus only on some aspects of evaluation related to territorial effects, including mainly the available quantitative methods.

In the case of ex-post, a fundamental problem is the availability of statistical data needed to assess a particular policy's impact. This means that, first of all, data on variables affected by the policy must be available for the period immediately preceding and following the introduction of the policy, both for the territorial units covered by it and for other territorial units, serving as a point of comparison. What is more, it is also important to consider whether this data could already capture the effects of the policy. If data are available and the effects of the policy could be expected to have materialised, then it is worth using statistical methods. These methods, particularly those based on a counterfactual approach, will allow the effect of the policy to be separated from other factors affecting socio-economic indicators. Such an analysis would

[19] See. Medeiros (2018).

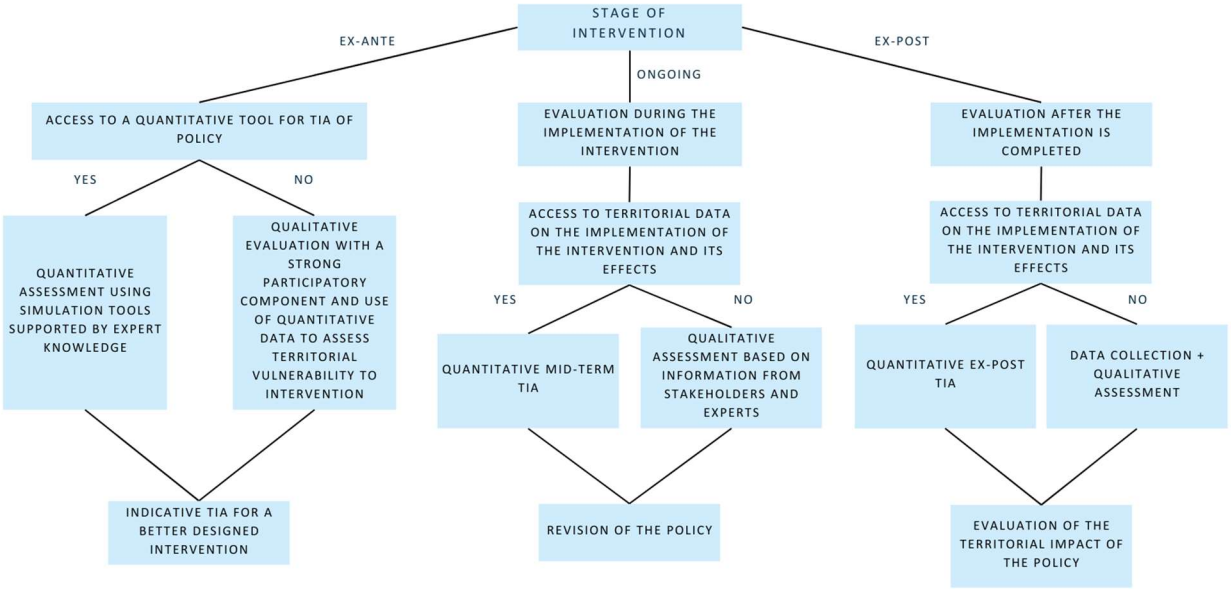
[20] Including European Commission's work: EVALSED https://ec.europa.eu/regional_policy/policy/evaluations/guidance_en and other materials available at the Commission website: https://knowledge4policy.ec.europa.eu/microeconomic-evaluation/policy-impact-evaluation-methods-data_en

thus be able to demonstrate the causal relationship (or lack thereof) between the policy and changes in the observed indicators.

Even when data is available, however, quantitative methods require considerable knowledge and labour that may not always be available. In this situation, descriptive data analysis combined with expert input and participatory methods similar to ex-ante analysis can also provide information on the territorial impact of a policy. It is also possible to triangulate interventions' effects, i.e., combine the conclusions of quantitative and qualitative analyses[21].

For ongoing analyses, ex-ante and ex-post analysis elements can be applied. The main problem is the availability of data on policy effects. A quantitative assessment of policy effects using statistical methods is possible if sufficient data is available (with similar caveats as in the case of ex-post analysis). Alternatively, the analysis during the intervention has to be based on expert methods, i.e. primarily on consultations with experts and representatives of the territorial units affected by the intervention. As has already been said earlier in this manual, analysis of the effects of a policy in the course of an intervention is critical as it allows a rapid response to the negative effects of the policy and allows the policy to be revised.

**Figure 2. Selection of the TIA method**




Source: own elaboration

[21] An example application of the participatory TIA methods and quantitative approaches to analysis of the cross-border cooperation is the ESPON CBC TIA project: https://www.espon.eu/TIA-CBC

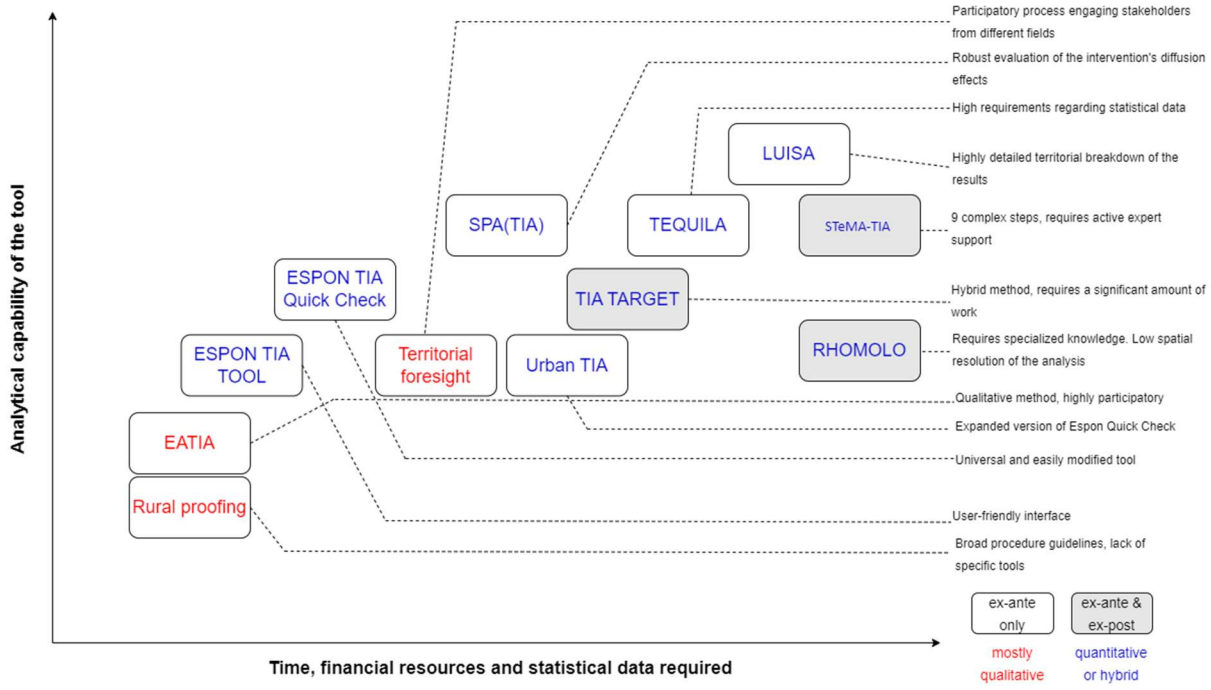
## 2.5. Overview of TIA methods

The tools currently at decision-makers' disposal include a wide range of approaches to territorial impact assessment. These include qualitative, participatory and workshop methodologies, which allow for rapid assessment, more complex data-driven models that can be used with support from research teams, and alternative approaches whose primary use is not TIA but which can be successfully implemented in this type of assessment.

Decades of research and development of TIA tools and methods have resulted in various approaches to assessing the territorial impact of policies, strategies and programmes. The annexe to this manual presents a selection of tools developed by individual researchers, ESPON-funded projects or EC research teams. They represent the basic methods used for ex-ante and ex-post evaluations. The annex is divided into three parts: the first discusses selected tools for ex-ante evaluations, the second discusses selected methods for both types of evaluation (ex-ante and ex-post), and the third discusses selected statistical methods to support ex-post analysis. As mentioned earlier, either ex-post or ex-ante methods, or a combination of both, can be used for ongoing analyses, depending on whether the effects of the policy are expected to appear immediately or with a delay.

Table 1 summarises the features of selected TIA methods, discussed in the following paragraphs of this chapter. For comparison, we also included the authors' (SPA)TIA method, whose description and application examples can be found further in this manual. Furthermore, an illustration of the advantages and limitations of each tool can be found below in the form of a chart comparing their analytical capabilities and resource intensity in terms of time, financial resources and statistical data required (see Figure 3).

**Figure 3. Map of selected TIA tools, illustrating their analytical capabilities and resource intensity**




Source: own elaborations. Details of the analyzed methods are presented in the Annex.

**Table 1. Comparison of selected TIA tools**

| Criteria | | ESPON QC | EATIA | TEQUILA | SteMA | TARGET | RHOMOLO | LUISA | (SPA)TIA |
|---|---|---|---|---|---|---|---|---|---|
| Time horizon | Ex-post | | | | √ | √ | √ | | √ |
| | Ongoing | | | | | | | | √ |
| | Ex-ante | √ | √ | √ | √ | √/? | √ | √ | √ |
| Type | Quantitative | √ | | √ | √ | √ | √ | √ | |
| | Qualitative | √ | √ | √ | √ | √ | | | |
| | Participatory | √ | √ | | | | | | |
| | Mixed | | √ | √ | √ | √ | | | √ |
| Geographical scope | NUTS1 | | √ | | √ | | | | √ |
| | NUTS2 | | √ | | √ | | ? | √ | √ |
| | NUTS3 | √ | √ | √ | √ | | | √ | √ |
| | CB | √ | ? | | | | | | √ |
| | FUA | √ | ? | | √ | | | | √ |
| Type of documents covered | EU strategies | √ | √ | √ | √ | √ | √ | √ | √ |
| | National policies | √ | √ | ? | √ | | √ | √ | √ |
| | Regional strategy | √ | √ | ? | ? | | ? | √ | √ |
| | Local programmes/projects | √ | √ | ? | ? | | ? | √ | √ |
| Possible assessment of impact on territorial cohesion | | √ | √ | √ | √ | √ | | | |
| Identification of regions left behind | | | ? | | | | | √ | √ |
| Type of territorial impact assessed | Positive/negative | √ | √ | √ | √ | √ | √ | √ | √ |
| | Intended/unintended | ? | √ | √ | √ | √ | √ | √ | √ |
| | Short/medium/long term | ? | √ | | | √ | √ | | √ |
| | Direct/indirect | ? | √ | | | | | | √ |
| | Cumulative | ? | ? | √ | √ | √ | | | √ |
| Identification of the causal link | | √ | √ | | | | | | |
| Resources required to implement | Data | | | √ | √ | √ | √ | √ | √ |
| | Knowledge | √ | √ | √ | √ | √ | √ | √ | √ |
| | Financial resources | | | | | | √ | √ | |
| The possibility of implementation by | National authorities | √ | √ | | | | | | √ |
| | Regional authorities | √ | √ | | | | | | √ |
| | Local authorities | √ | √ | | | | | | √ |
| | Experts | √ | √ | √ | √ | √ | √ | √ | √ |

Symbols used: √ - yes, ? - not confirmed/not checked.

# 3. Participatory elements in TIA - experiences and recommendations

## 3.1. The concept of a participatory approach and its rationale

A key aspect of all the approaches to TIA presented is that they require the involvement of actors other than the entity responsible for developing the TIA and the research team dedicated to its implementation (assuming they are not the same) in the evaluation process. The scale and scope of this involvement may vary, but it is informed by the belief that consulting others will provide a broader view of the phenomenon under investigation. Collaborating with other stakeholders can result in gaining additional knowledge about the policy being analysed and/or its possible implementation consequences. It must be noted that the tools used to engage stakeholders in a TIA are not unique. They commonly used research methods and techniques appropriate for social studies and public consultation. Proper objectives and research questions determine their inclusion in the TIA process. The sample selection corresponds to the issue addressed and the territory for which the TIA is carried out.

Methodological literature sometimes distinguishes between participatory and expert approaches (Musioł-Urbańczyk 2015). Given that, for a complete picture of the public policy under analysis, it is necessary to look at it from multiple perspectives, in the following section, we would like to use the general term "stakeholder involvement". Stakeholders are sometimes defined *as* "individuals or groups of people affected by the public policy under analysis and/or who impact the effectiveness of its implementation" (Nita, 2016). In this group, we can identify, for example, officials at various levels, representatives of professional organisations or academic experts (representatives of civil society). The proposed terminology emphasises the equal position and synergy between all these groups. Learning about the opinions of successive stakeholder groups allows us to formulate a more holistic assessment of the policy under study.

When considering the participatory elements in the TIA process, we do not narrow it down to just a workshop for evaluations within the chosen approach. The merits of involving a wide range of stakeholders in the TIA, from the planning stage through implementation to validating outcomes, are clear. It can better frame the analytical framework of the evaluation, improve the catalogue of policy outcomes examined or increase the social legitimacy of the whole process. In other words, the activities described hereafter concern not only the realisation of the TIA itself (conducting a workshop where evaluations will be systematised) but also other activities involving stakeholders.

First and foremost, a TIA can be a tool for building awareness of the ongoing legislative/planning process. Where, at earlier stages, policymakers have not communicated sufficiently effectively about the work in progress, TIA can indirectly offset the resulting potential stakeholder dissatisfaction and their sense of being ignored by authority. In addition, the sense of participation in the process of shaping a given policy generates a sense of shared responsibility for that policy, which often translates into greater involvement at the implementation stage and, above all, minimises so-called "tacit resistance" - a state in which a given stakeholder does not openly express their dissatisfaction with the introduced solutions, but employs passive resistance strategies aimed at not conforming to the expected forms of behaviour. For some stakeholders, taking part in participatory methods is also a value in itself: it structures and consolidates their knowledge and provides an opportunity to acquire new information.

Depending on the extent to which decision-makers incorporate the conclusions of the TIA (in the case of *an ex-ante* evaluation) into the final form of the planned policy, we may have a collaborative co-design of policies, thanks to which they can be better tailored to the challenges encountered. In addition, TIA can promote transparency in the lawmaking process. However, for it to generate positive effects in this respect, communication with stakeholders must be two-way: it should serve as a means to obtain knowledge and provide feedback. The lack of reference to the information gathered, and the failure to include it in the draft policy may be counterproductive, i.e. fostering a sense of incomprehensibility of the legislative process and preparing policies "behind closed doors".

At the same time, being open to dialogue always carries the potential for differences in opinion and may trigger the need to facilitate a complex discussion. Inviting stakeholders to participate in the assessment involves committing time and resources (human, financial, and material). The stakeholder responsible for the TIA must consider the possibility of conflict between themselves and other evaluation participants or the invited stakeholders. It is necessary to form an action plan for such a situation.

## 3.2. Identification of stakeholders and possible ways of involving them in the TIA

The first step towards including stakeholders in the TIA process is identifying them. As noted earlier, the search for people and groups of people who are affected by the policy under review or are likely to affect its success is not

fundamentally different from any other analogous strategic management process. The team responsible for implementing the TIA should prepare as exhaustive a catalogue as possible of all the people and institutions linked to the assessed policy. This is done by using creative group work tools (e.g. brainstorming, mind mapping), the results of desk research (e.g. review of publications and thematic reports) and possible expert guidance (obtained, e.g. during so-called *scoping interviews*). For example, PEST or PESTEL approaches (Yudha, Tjahjono and Kolios 2018)[22] can help verify that no one/nothing has been missed. For TIA, it is crucial to ensure domain / sectoral representation and territorial representation. Selected stakeholder categories closely linked to a given territory (e.g. municipal officials, representatives of the district agricultural advisory service) need to be multiplied to geographically "cover" the whole analysed area or at least a significant part of it. In other words, stakeholders' identification must be carried out within the domain and territory. In order to guarantee an objective selection of participants in the process, it is advisable to use, for example, the EC *Better Regulation Guidelines & Toolbox*. This document proposes practical guidelines and concrete solutions that guarantee pluralism in the discussion and minimise the risk of a tunnel effect (i.e. that all participants in the TIA process will have a similar way of thinking about the issues analysed and will reinforce each other's convictions instead of creatively contesting them and producing a new, better quality of public policies).

In strategic management, stakeholders are grouped according to their interest in a particular project (here: the policy under TIA) and their ability to influence its course. In general, the lower the interest in the policy under study and the lower the influence on its implementation, the lower the involvement of a given stakeholder in the ongoing TIA is likely to be (Olander, Landin 2005). Therefore, when planning specific ways to involve given stakeholder groups in the evaluation, we must choose the participants according to the stakeholders' interest in the topic and their influence.

Participatory methods within TIA are *de facto* standard research methods for preparing, conducting and summarising the TIA process. By convention, they are divided into quantitative, qualitative and mixed methods (Babbie 2009). It is impossible to say which data collection methods in the TIA process are best. It depends on the policy being analysed (the resulting number and nature of stakeholders), the territory and the knowledge to be gained. Quantitative research is - on average - quicker to implement and allows for more responses and comparability. Qualitative analysis allows for exploring areas that researchers were unaware existed and a better understanding of processes and mechanisms. As mentioned earlier, the choice of research method must also respect the assumed involvement of a given stakeholder group in the TIA process. Suppose we plan to use a lengthy and time-consuming postal questionnaire to survey a group of people with little interest in the ongoing TIA. In that case, there is a high probability of a mass lack of involvement in the study.

## 3.3. Summary

Involving a wide range of stakeholders in a TIA is essential in ensuring its comprehensiveness and fairness. However, not every dialogue with policy stakeholders can be considered participatory. At its definitional core is a precise establishment of:

- what is the purpose of the dialogue with the stakeholders concerned (e.g. to provide information on TIA, to gather information on the possible impacts of the policy being evaluated),
- what is the scope of the study (e.g. defining the policy under analysis, the territory subject to the TIA and the period for which we are assessing),
- whom we want to involve in the dialogue (from whom we wish to obtain information).

Any ad-hoc contacts, not structured in terms of the above three dimensions, can, at most, be complementary. Only the conjunction of the three criteria indicated above determines research reliability. The methodological regime is crucial for qualitative data collection methods, which are characterised by low replicability (e.g. interviews, workshops).

Quantitative, qualitative and mixed data collection methods can be used to engage stakeholders in the TIA process. The choice of research methods and techniques must be driven by both the information needs they address and the potential of the individual/respondent group to engage. The more stakeholders are involved, the more complex and demanding the research methods they are invited to participate in may be.

The most significant advantage of including stakeholders in the research process is the opportunity to elicit knowledge and opinions unavailable to TIA team members. This improves the quality of the conclusions and recommendations formulated and, in addition, increases the sense of co-responsibility of the researched parties for the ultimate effectiveness of the evaluated policy. The

[22] PEST is a tool for examining the surrounding, grouped into one of several areas: political (P), economic (E), social (S), and technological (T). In PESTEL the environmental (E) and legal (L) context is also considered. It is carried out through brainstorming and horizon scanning, with the goal of identifying the factors for opportunities and threats of a given undertaking, Satya Widya Yudha, Benny Tjahjono, and Athanasios Kolios (2018) A PESTLE Policy Mapping and Stakeholder Analysis of Indonesia's Fossil Fuel Energy Industry. Energies 11, no. 5: 1272.

biggest challenge for TIA implementers is to encourage stakeholder involvement in the research undertaken.

# 4. SPA(TIA): a diffusion-oriented method of Territorial Impact Assessment

This section introduces SPA(TIA) - a new ex-ante territorial impact assessment method designed for public policies. The approach draws on existing tools, particularly ESPON TIA Quick Check and TARGET_TIA methods, which were test-implemented to uncover their strengths and weaknesses. As a result of these tests, as well as of a broader review of the existing tools, the new approach attempts to address three major challenges:

- Striking a proper balance between the formalised, methodologically sound approach and the participatory nature of TIA, which requires active contribution from the stakeholders of policies (who typically are not familiar with quantitative research methods).
- Directly including the (largely ignored by existing TIA methods) diffusion of policy effects beyond the territory covered by the intervention.
- Proposing a method that would require software that is commonly accessible rather than expensive and specialised.

Since this chapter aims to propose a fully applicable method rather than just general guidelines, the application of SPA(TIA) will be discussed based on an ex-ante evaluation of an actual programme: European Funds for Western Pomerania EFWP 2021-2027 (as adopted on April 6, 2022)[23]. Aimed at supporting the development of Zachodniopomorskie voivodeship in Poland and amounting to EUR 1.69 billion, the program was approved for implementation by the European Commission on December 7, 2022.

The Zachodniopomorskie voivodeship, also known under its geographical name – the Western Pomerania region – is one of 16 Polish voivodeships, which are NUTS-2 territorial units of the E.U. Zachodniopomorskie is located in the north-west of Poland. It borders the German lands of Mecklenburg and Brandenburg (to the west), the Baltic Sea (to the north), and three other Polish voivodeships: Pomorskie, Wielkopolskie, and Lubuskie. 1.7 million inhabitants populate Zachodniopomorskie. Its regional product accounts for about 3.8% of Poland's total GDP. When ranked according to GDP per capita, Zachodniopomorskie is Poland's 8th most developed region (thus precisely in the middle of the list).

The European Funds for Western Pomerania 2021-2027 program is a large initiative encompassing numerous policies and involving various stakeholders. In such cases, carrying out a single TIA for the entire programme is not advisable, even if other initiatives go under a common formal "umbrella" and are launched by a single legal act. A better solution is to divide the programme into smaller, more internally coherent fragments and conduct a TIA for selected instruments or each separately. Such a solution was adopted for the assessment of the territorial impact of the EFWP programme, conducted in November of 2022 with the participation of the SPA(TIA) team, stakeholders from regional administrations of Western Pomerania, Pomorskie, Wielkopolskie and Lubuskie, and representatives of Polish Ministry of Development Funds and Regional Policy. The analysis was focused on a selected part of the EFWP program, one devoted directly to educational policy:

- Priority 6(f): to promote equal access to and completion of good quality, inclusive education and training, especially for disadvantaged groups, from early childhood education and care, through general and vocational education and training, to higher education and adult education and learning, including facilitating learning mobility for all and accessibility for people with disabilities.
- Priority 6(g): to promote lifelong learning, in particular flexible up-skilling and re-skilling for all, including entrepreneurial skills and digital competencies, to anticipate better changes and the need for new skills based on labour market needs, to facilitate career transitions and to promote occupational mobility.

The analytical steps described in the following sections were realised during preparatory desk research and the two-day workshop held in the city of Szczecin on November 7-8, 2022

## 4.1. Characteristics of the intervention

Priorities 6(f) and 6(g) of the EFWP programme (in the later sections, we will use the EFWP acronym for simplicity) are focused on education and lifelong learning. The total funding foreseen for this thematic area in 2021-2027 is EUR 82 million. Similarly to most programmes of this type, the official documentation does not include any list of actual projects to be implemented. Instead, it lists the types of activities which the programme intends to support. These include:

- Improving the quality and availability of preschool education;
- Improving the quality and availability of general education in primary and secondary schools;

[23] Full information on the programme is available at www. https://rpo.wzp.pl/fepz - see pages 127-137 for description of the priorities 6(f) and 6(g).

- Improving the quality and availability of vocational education in post-primary schools;
- Supporting adults seeking to improve their qualifications/competencies;
- Developing key competencies, including digital skills;
- Developing career guidance and educational brokering for adults;
- Supporting local adult learning initiatives;
- Supporting the formation of selected professions (e.g. psychologists, psychotherapists).

By default, it is expected that activities addressing the above categories will be designed by the local administration, non-governmental organisations, businesses, and private individuals and selectively supported by EFWP through grant programmes.

The authors of the programme explicitly state the objectives of the undertaken actions. However, this description includes very general goals and some concrete results, typically without clearly specifying the time horizon for different outcomes. After some rearrangement and aggregation done by the SPA(TIA) team, the goals of the intervention include the following:

- Better quality and accessibility of education at every stage;
- Higher educational achievements of students;
- Higher qualifications of teachers;
- Education corresponding to the current and future demands of the labour market;
- Better cooperation between vocational schools and their business surrounding;
- Higher qualifications of adults (key/digital skills);
- Increased share of lifelong learners in the population.

Beneficiaries of the programme may include local government units, government administration bodies, entities which provide public services commissioned by local government units, in which the local government owns the majority of shares or stock, research and development units conducting the educational activity, entrepreneurs, research units, universities, foundations and associations, legal and natural persons who are running schools and other educational institutions.

The official documentation contains relevant information regarding the expected territorial impact of the program (under the two priorities under consideration). According to the description, out of the EUR 82 million of total funding for priorities 6f and 6g, 39 million will be spent focusing on the so-called functional urban areas (FUA) within the voivodeship[24]. At the same time, the remaining 43 million will not have any specific territorial focus. However, in all parts of the programme, the authors declare (unspecified) support for territories belonging to the Special Inclusion Zone (SIZ). The zone includes municipalities in a particularly unfavourable socio-economic condition, including rural territories experiencing structural problems due to the closure of state-owned farms in the early 1990s. Support for development processes in this area will rely, in particular, on establishing preferences in project selection criteria[25].

Finally, the description of the programme states all activities will be taken within the territory of the Zachodniopomorskie voivodeship. Importantly, this means that the direct effects of the program will be limited to that region. However, this does not exclude the possibility of diffusion of the effects due to the mobility of individuals and capital or economic transactions across the regional border.

## 4.2. Necessity check

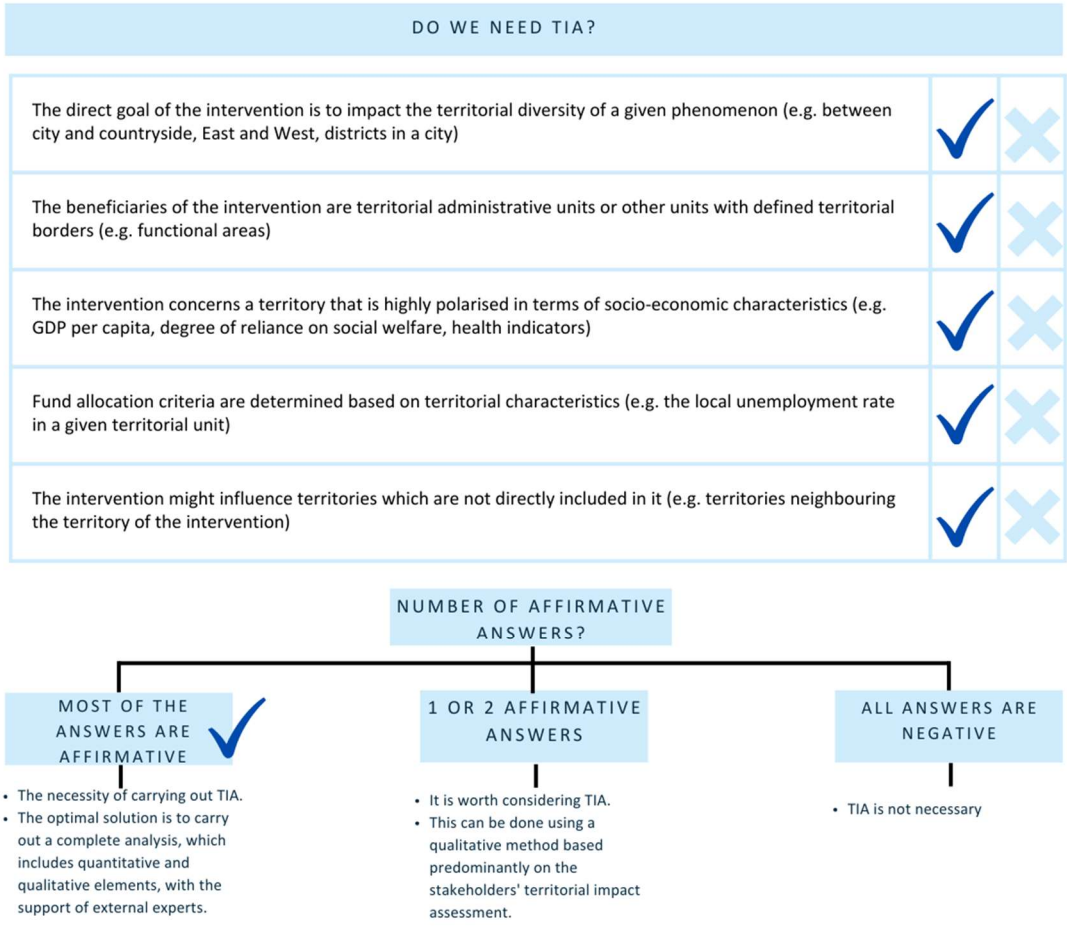
Methods: Desk research (analysing the intervention programme documentation), statistical data analysis, and brainstorming within the team conducting the TIA. Stakeholder consultation on contextual strategic and planning documents.

According to the procedure described in Chapter 1 of this manual, the first step of the analysis should be to confirm or question the need for a territorial impact assessment of the intervention. In the case of the EFWP programme, we can carry out this verification as follows (cf. Figure 4).

[24] Functional Urban Areas of Zachodnopomorskie were delimited by the voivodeship's authorities in 2016. According to this study, there are five regional level FUAs and one supraregional FUA in the voivodeship (http://eregion.wzp.pl/obszary/miejskie-obszary-funkcjonalne)

[25] https://www.pfp.com.pl/files/2024.pdf

**Figure 4. Diagram of confirming the need for a TIA for the hypothetical intervention**




Source: own elaboration.

- Is the aim of the intervention to influence the territorial differentiation of a particular phenomenon? The answer is affirmative: EFWP forms a part of the European cohesion policy and aims to reduce inequalities within the region and between Zachodniopomorskie and other Polish voivodeships.
- Does the intervention concern a strongly differentiated area? The answer is affirmative: Western Pomerania is strongly diversified regarding socio-economic characteristics, including the characteristics associated with human capital, access to education, and labour market opportunities. The uneven level of development is confirmed by numerous studies, including the reports of functional areas (FUAs) and Special Inclusion Zone (SIZ) cited in this chapter.
- Is local administration a direct beneficiary of the intervention? The answer is affirmative: In line with the logic of the programme, local governments are likely to apply for funding within the programme. They are responsible for maintaining and managing public schools and preschools. Both the employment of teachers and other measures to improve the quality of education fall within their responsibilities.
- Do territorial characteristics determine the allocation criteria? The answer is affirmative: Although we don't know the exact allocation criteria yet, the declared support for FUAs and the SIZ will probably be realised by directing funds to certain territories.
- Can the intervention affect areas not directly involved? The answer is affirmative: Due to the almost unrestricted mobility of people and capital within the EU, a change in the level of human capital, labour market opportunities, and the quality of education is likely to have an impact on territories neighbouring Western Pomerania. This includes the adjacent territories in Pomorskie, Lubuskie, and Wielkopolskie voivodeships and territories across the Polish-German border.

The reasoning above demonstrates that the intervention under study meets all five criteria justifying a territorial impact analysis (cf. Figure 4). According to this result, the

TIA procedure should be continued, ideally using both statistical methods and qualitative analysis tools.

## 4.3. Reconstruction of the objectives and choosing the level of territorial aggregation for the analysis

### Objectives of the intervention over different time horizons

Evaluating the territorial impact of an intervention requires reconstructing its objective(s). It is essential to note which of them are likely to be achieved immediately after the end of the intervention and which can only be achieved in the longer term, following the processes that the intervention initiated. In other words, it is necessary to define the objectives of the intervention concerning the time horizon.

Identifying objectives is an analytical task performed jointly by stakeholders and the TIA implementation team, preferably in the form of a stationary workshop. Available documentation on the considered policy is a key input at this analysis stage. Although the participants are often tempted to redesign the policy or supplement it with new ideas, the goal here is rather to structure the already existing objectives of the programme and understand their hierarchy and time horizon. Importantly, by using the term "objective", we mean a consciously planned effect of the programme, not side effects or other changes that may result from the intervention, but are not explicitly intended by the authors of a given policy.

In the case of EFWP, the participants of the workshop organised in Szczecin identified the following objectives:

- Short-term objective 1: Improved access to preschool education,
- Short-term objective 2: Increased number of adults participating in education,
- Medium-term objective 1: Higher academic achievements of students,
- Medium-term objective 2: Lower unemployment and higher professional mobility among school leavers and a population 50+,
- Long-term objective 1 - Higher productivity of labour market entrants and higher wages,
- Long-term objective 2 – Lower number of families requiring material assistance.

The identified objectives of the EFWP programme were written down in the form of general slogans. However, their definitions allow further operationalisation. In other words, they may be matched with quantitative indicators in public statistics. For example, improved access to preschool education can be measured by the percentage of preschool-age children attending preschools. In turn, students' educational achievements are typically measured using test scores (in Poland, standardised tests are administered after grade 8 and after secondary education). Unemployment is usually measured by the unemployment rate or the share of unemployed individuals in the working-age population.

### Level of territorial aggregation of the TIA analysis

In addition to qualitative data and expert knowledge, the SPA(TIA) method relies heavily on statistical data on territorial units. Moreover, the results of TIA are typically visualised using cartograms. This requires a decision about the level of spatial aggregation on which the assessment will be conducted to be made at an early stage of the analysis.

In principle, a lower level of territorial division (smaller territorial units) favours the quality and accuracy of TIA. However, the decision should also take into account two important factors:

- The territorial level relevant to the stakeholders of a given programme. In the case of the intervention discussed in this chapter, the key tasks are related to education and the labour market. According to Polish regulations, most of these tasks are performed by local authorities at the municipal (LAU1) or county (LAU2) level.
- Availability of statistical data. A detailed spatial analysis is possible when data supporting decision-making and territorial impact assessment is available at a given level of aggregation. In our case, most data is available at the municipal level (student academic achievements, participation in preschool education, eligibility for social assistance), while some of it, particularly labour market characteristics, is accessible at the level of counties.

Considering the above information, the participants of the TIA workshop in Szczecin decided that the TIA for the EFWP programme will be carried out at the municipal level (LAU 2).

## 4.4. Intended exposure

Methods: Desk research and brainstorming within the TIA implementation team. Consultation with external experts. Discussion with stakeholders during the TIA workshop. Final decisions to be made during the workshop

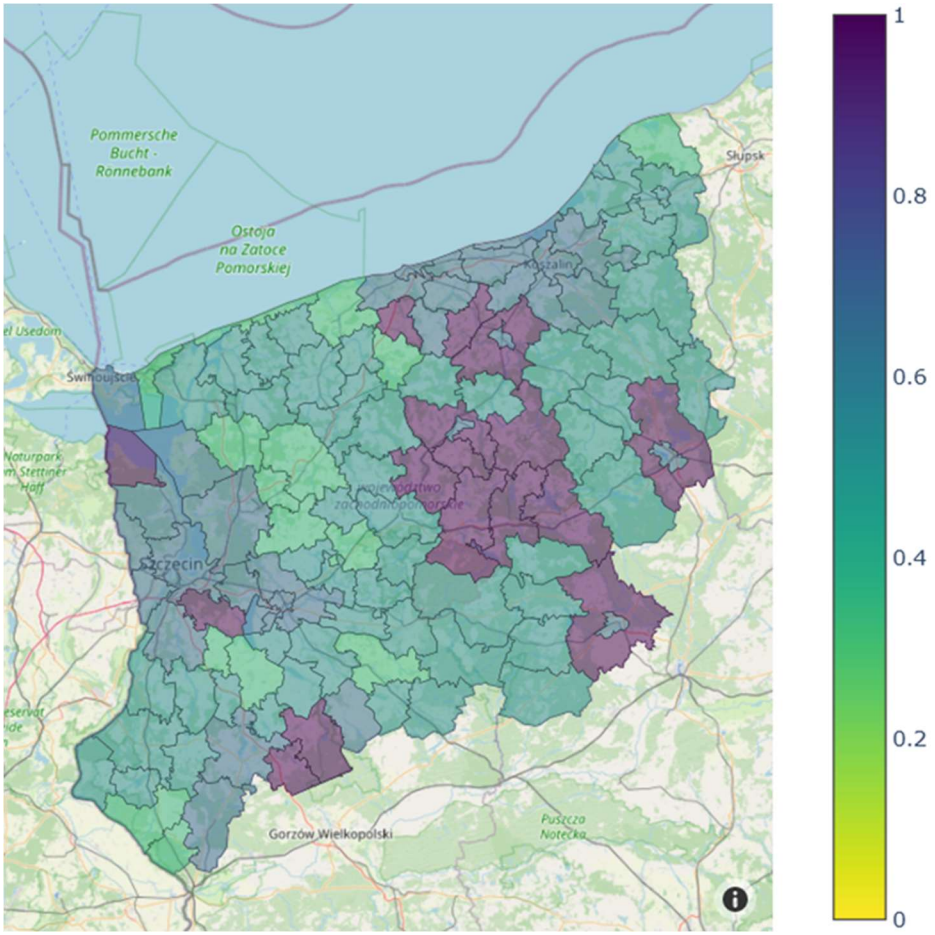
Any policy can be intentionally directed towards particular territories, either specified by name or by eligibility criteria. Each territorial unit *i* can thus be assigned the value $E_i$, describing its intended exposure to the intervention. Diversity in the intended exposure is in fact part of the analysed policy desired by the policymakers. For example, the intervention may be specifically designed to assist rural areas with above-average unemployment rates or low population density. In such cases, the uneven benefits from the policy are part of its design, one built-in in the phase of creation.

The SPA(TIA) procedure requires evaluators to assign a specific value of *E* to each territorial unit *i*. As a general rule, the intended exposure is positive – territories may differ with respect to eligibility for the programme, but no policy is typically aimed at "harming" any territory.

Depending on the needs and data availability, planned exposure can be defined on a nominal scale (values of 0 or 1) or as a continuous variable taking values from 0 to 1.

In the process of the TIA applied to the EFWP programme, participants of the TIA workshop decided to assign the maximum value of exposure (E=1) to 16 out of 114 Western Pomerania municipalities, included in both FUA and SIZ. Exposure is lower for the remaining 98 municipalities, where individual values depend on the FUA or SIZ status of the municipality, and they are derived based on the indicative division of funds between different tasks, as described in EFWP documentation. The resulting map of municipal exposure to EFWP is shown in Figure 5.

**Figure 5. Exposure of Western Pomerania's municipalities to policies within the programme European Funds for Western Pomerania 2021-2027, priorities 6(f) and 6(g).**




Source: own elaboration

## 4.5. Determining the sensitivity of territorial units to the EFWP programme

Methods: Desk research. Discussion with stakeholders during the TIA workshop. Final decisions to be made during the workshop.

Irrespective of the planned exposure of territorial units to the policy, their sensitivity to it may vary due to their endogenous characteristics, which may strengthen or weaken the effects of the action taken. Therefore, the sensitivity of territorial units depends on their characteristics, which are beyond the control of policymakers but can nevertheless be better understood through an analysis of regional conditions.

Because the sensitivity of territorial units to a policy can be specific to particular objectives identified in the earlier stage of TIA, it is recommended to assess the sensitivity separately for each objective. In the case of the EFWP programme, this would mean six sensitivity values for each municipality. However, this number may be reduced if the experts decide that the mechanisms behind sensitivity are similar for some (or all) objectives.

As a starting point for discussion, it seems reasonable to assume that sensitivity is related to the base level of the indicator used to quantify a given objective. For example, considering improving students' academic achievements, public policy measures may be more effective in territorial units where the achievements are currently low (the so-called "low base effect"). However, in the case of many policies, the opposite mechanism is also possible: the effectiveness of an intervention may require a sufficiently high baseline level of the given phenomenon for a territory to take advantage of the support offered (the so-called "fertile soil effect").

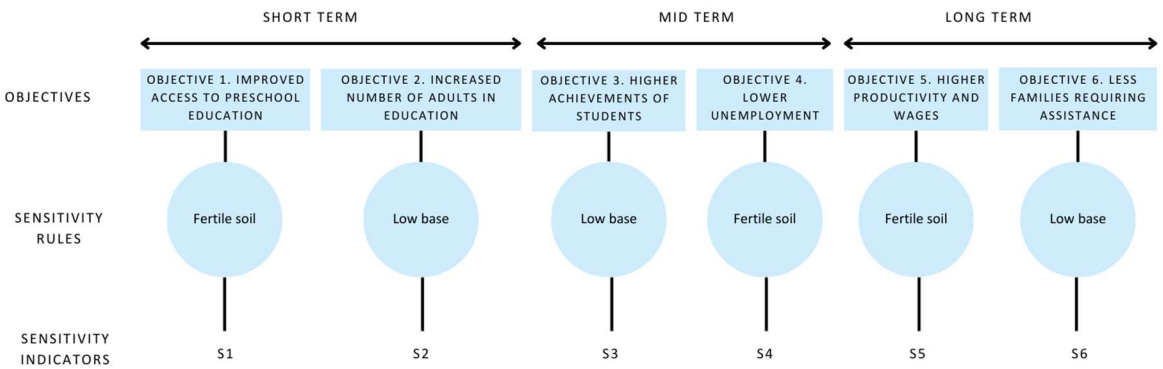
Naturally, the analysis of territorial sensitivity to an intervention is not necessarily limited to the choice between the low base and fertile soil effects. Sensitivity can also be linked to other factors that strengthen or weaken the impact of a policy. One example is when an intervention is supposed to be co-funded by the local resources, and the local tax base is uneven between territorial units. In such circumstances, one may expect that the availability of local funds will strongly determine the effectiveness of the policy and, therefore, should be considered an indicator of sensitivity. This is the case for the "third-variable rule", as the tax base level is not directly linked to the goals of the policy.

Bearing in mind the above, the participants of the TIA workshop need to consider the following possibilities when assigning sensitivity values to particular territorial units:

- The number of sensitivity indicators can be equal to or lower than the number of identified objectives of the intervention.
- For each objective, sensitivity values ranging from 0 to 1 can be assigned to territorial units "manually" (based on experts' knowledge) or using statistical data characterising these units. In the latter case, the choice of variable(s) used as sensitivity measures may follow the low base, fertile soil, or third-variable rule. Independent of the rule applied, the variable of interest may need to be transformed so that its higher values correspond to a more desirable outcome for the territory. For example, when using standardized test scores to approximate students' academic achievements, one can stick to the "raw" variable. However, suppose the unemployment rate is used to indicate labour market conditions. In that case, one needs to transform the original variable using either the 1-x or 1/x formula so higher values are "better" for the territory.
- Once the choice of variables and rules of sensitivity is done, the value of sensitivity needs to be normalised (so that it ranges from 0 to 1) using the formula: $\boldsymbol{S_i = \frac{(Value_i - Max)}{-(Max - Min)}}$ in the case of the low-base rule, and $\boldsymbol{S_i = \frac{(Value_i - Min)}{(Max - Min)}}$ under remaining rules, where $\boldsymbol{Value_i}$ is the original variable's value for territorial unit i, Min is the minimum value of the original variable, and Max is the maximum value of the original variable.
- The sensitivity indicator for any objective may be based on just one or multiple variables. In the latter case, each variable may follow a different rule (low base, fertile soil, third variable). The ultimate sensitivity Si within each objective must be calculated as an arithmetic mean of the normalised variables.

Figure 6 illustrates the choices made by the participants of the Szczecin workshop regarding the nature of the sensitivity of municipalities to the EFWP programme.

**Figure 6. Sensitivity of municipalities to the EFWP programme according to the participants of Szczecin workshop.**




Source: own elaboration

The assessment of territorial sensitivity for individual intervention objectives is easiest to carry out using a spreadsheet. Below is an excerpt from the spreadsheet used during the Szczecin workshop. It covers the two objectives of the EFWP programme: to improve the academic achievements of students and to raise the productivity of the labour market entrants (Table 2). For the former objective, it was decided that the only sensitivity criterion would be the initial educational achievement level (as measured by the average test scores) and that the low-base rule would apply. In turn, sensitivity to the latter objective is defined by the fertile soil rule applied to the current average wage in the local economy.

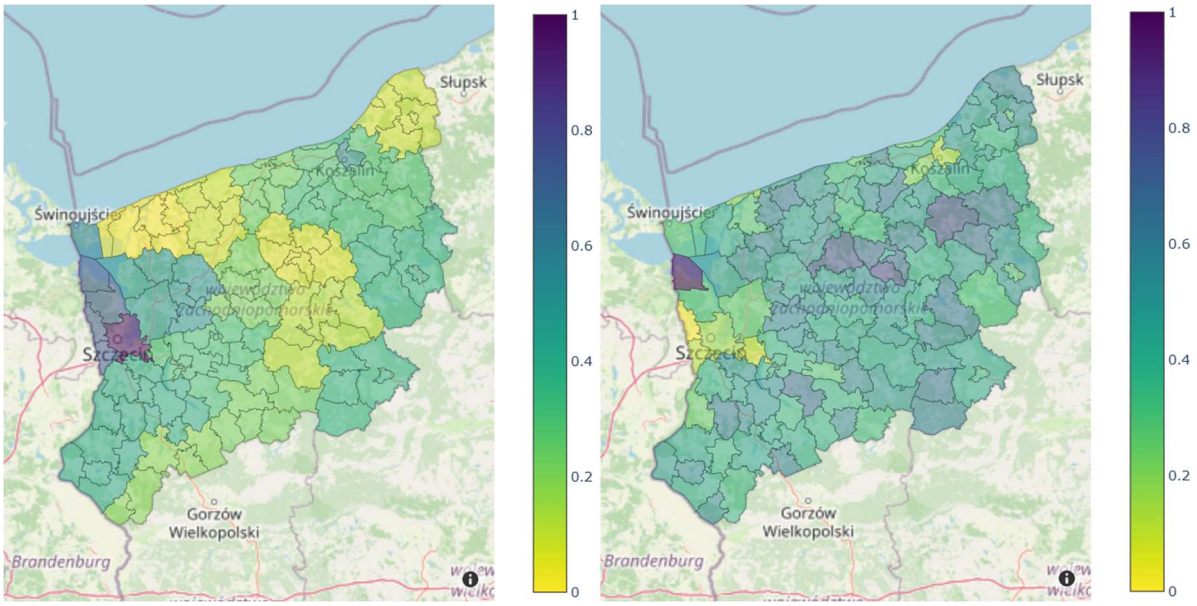
**Table 2. Excerpt from the spreadsheet used during the Szczecin workshop to calculate the sensitivity indicators**

| | Objective: | Higher academic achievements of students (Objective 3) | Higher productivity of labour market entrants (Objective 5) |
|---|---|---|---|
| | Variable: | Average test scores in 8th grade (2021) | Average wage in the local economy (2021) |
| | Rule: | Low base | Fertile soil |
| **ID** | **Name** | **Sensitivity indicator S3** | **Sensitivity indicator S5** |
| 3206012 | Banie | 0.608 | 0.416 |
| 3210013 | Barlinek | 0.411 | 0.187 |
| 3215023 | Barwice | 0.501 | 0.390 |
| 3209012 | Będzino | 0.403 | 0.294 |
| 3201011 | Białogard | 0.429 | 0.323 |
| 3201022 | Białogard | 0.501 | 0.323 |
| 3215033 | Biały Bór | 0.374 | 0.390 |
| 3212012 | Bielice | 0.446 | 0.396 |
| 3202012 | Bierzwnik | 0.350 | 0.220 |
| 3209022 | Biesiekierz | 0.206 | 0.294 |
| 3209033 | Bobolice | 0.654 | 0.294 |
| 3210022 | Boleszkowice | 0.549 | 0.187 |
| 3215043 | Borne Sulinowo | 0.321 | 0.390 |
| 3205012 | Brojce | 0.519 | 0.075 |
| 3216022 | Brzeżno | 0.795 | 0.050 |
| 3206023 | Cedynia | 0.489 | 0.416 |
| 3214023 | Chociwel | 0.424 | 0.310 |
| 3206033 | Chojna | 0.441 | 0.416 |
| 3202023 | Choszczno | 0.387 | 0.220 |
| 3203013 | Czaplinek | 0.631 | 0.102 |
| 3217023 | Człopa | 0.595 | 0.371 |
| 3213011 | Darłowo | 0.440 | 0.076 |
| 3213032 | Darłowo | 0.501 | 0.076 |

Source: own elaboration

The values of territorial sensitivity corresponding to objectives 3 and 5 of the EFWP programme are shown in Figure 7.

**Figure 7. The municipal values of territorial sensitivity to the EFWP programme, objectives 3 and 5.**




Source: own elaboration

## 4.6. Estimation of the direct impact of the interventions on the individual objectives

After carrying out the steps described in chapters 4.1 to 4.5, we are ready to estimate the direct impact of the intervention on all territorial units covered. Its calculation is carried out separately for each of the defined intervention objectives using the following formula:

$$F_{ij} = S_{ij} * E_i \qquad (4.1)$$

In other words, the value of the direct intervention effect for municipality *i* under objective *j* is the product of its exposure to the policy and the sensitivity indicator of that municipality. As both formula components are normalised, the resulting measure of direct territorial impact takes values in the range [0,1].

## 4.7. Spatial diffusion of policy impact

Methods: analytical work within the TIA leadership team. Optionally consultation with external experts. Discussion at the Workshop.

Territorially defined public policies may affect not only the territories directly addressed by their activities but also other places, even if, theoretically, they are located outside the intended area of the intervention. This is because the effects of any policy may spill over to territories not directly affected due to geographic proximity or functional ties with the region that is subject to the intervention (hence the commonly used term "spillover effect"). Research in regional studies and economic geography usually operates with the concept of "spatial diffusion", which by definition has a territorial context. This issue is also related to the notion of "externalities", used in public economics.

From the point of view of a territory which experiences a diffusion of a policy (not necessarily being itself its target), such a spillover may be either positive (when we observe a spread of benefits from the actions taken) or negative (when as a result of actions taken in a particular territory, resources are "washed out" from other places). Thus, unlike indicators of territorial exposure and sensitivity, which are non-negative, the diffusion indicator in the SPA(TIA) procedure can take values in the range [-1,1], where:

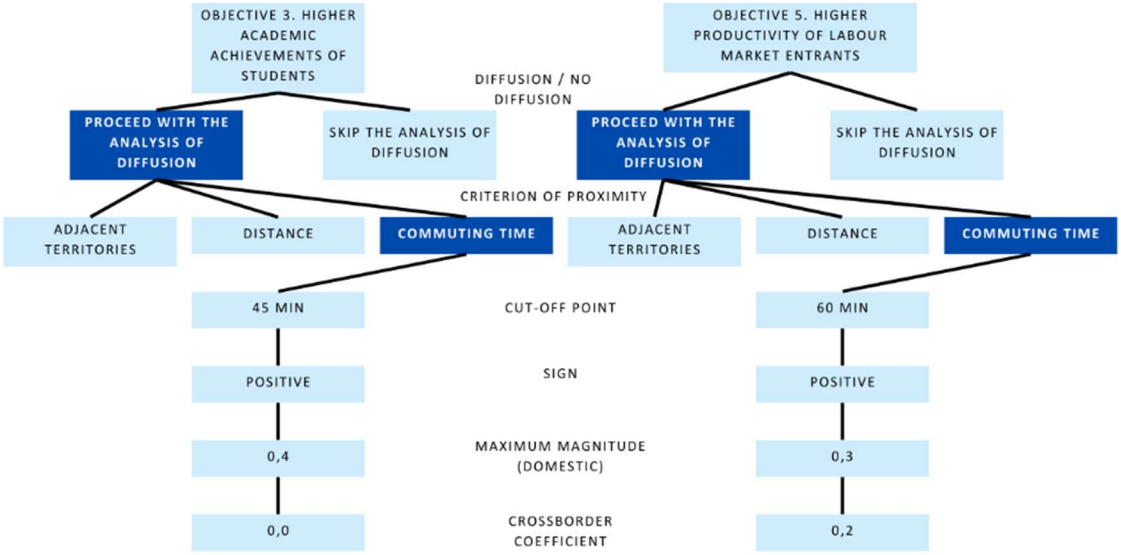
- An indicator equal to 0 means no diffusion of the effects of the intervention to the territorial unit takes place.
- An indicator equal to 1 means that the diffusion affects the unit under investigation to the same extent as those directly affected (beneficial effect).
- An indicator of -1 means that the diffusion affects the unit under investigation to the same extent as those directly affected but in the opposite direction (adverse effect).

Determining the values of the diffusion indicator for territorial units requires the following steps to be taken for each policy objective:

- Deciding whether a diffusion effect is expected for a given objective. Diffusion may refer to all objectives, some of them or none. In the latter case, we omit all further steps described in the Annex.
- Selection of the diffusion criterion used to determine the range of diffusion. For example, diffusion may occur only in territories directly neighbouring the units in which the policy is administered (i.e. sharing a common border). In some cases, however, relying on the physical distance or travel time between the territories may be more realistic than sharing the border.
- Definition of the cut-off point. The boundary beyond which diffusion no longer occurs must be defined depending on the diffusion criterion chosen. For example, suppose the common border criterion is used. In that case, diffusion can be considered to only apply to first-degree neighbours (shared border with the unit covered by the intervention) or first and second-degree neighbours (neighbours and their neighbours). If the distance criterion is chosen, the diffusion boundary can be defined as, for example, 50 km. Finally, for commuting time, it could be, for example, 60 minutes. The above values are, of course, just an example. The choice of cut-off point should always follow a thorough analysis, considering the context of the intervention and its specific purpose.
- Determination of the sign of the diffusion effect (+ for a beneficial effect, - for an adverse effect).
- Determination of the maximum magnitude value of the diffusion effect. As mentioned, the indicator can theoretically take values in the range [-1,1]. However, if we define the indicator's sign as positive or negative, we automatically narrow this range to either [0,1] or [-1,0]. Subsequently, we may consider, insofar as the factual knowledge of the intervention in question justifies this, that the effect resulting from diffusion cannot be as strong as the effect of the intervention itself, which may lead to setting the maximum absolute value of the diffusion index at (for example) 0.8.
- As mentioned in section 1.3, undertaking an intervention in the proximity of a state border may have specific consequences for the diffusion of the policy impact. We can generally expect that the diffusion of outcomes may affect territorial units on both sides of the border. However, cross-border diffusion is often less powerful than diffusion within one country. This can be due to, for example, cultural barriers (different languages, customs) or differences in legal regulations (restrictions for foreigners). It is easy to imagine that such a barrier would weaken the diffusion effects concerning areas such as the labour market or education.

As part of the workshop in Szczecin, a mini-survey among the participants was carried out to determine all the diffusion parameters for each EFWP objective. Figure 8 presents a decision tree illustrating decisions made for objectives 3 and 5.

**Figure 8. The process of spatial diffusion analysis of the effects of objectives 3 and 5**




Source: own elaboration.

In the case of objective 3 (Higher academic achievements of students), it was decided that the intervention may impact units within 45 minutes of commuting time from the closest territory covered by EFWP. The expected impact is positive: students from nearby areas can commute to better schools. However, the maximum magnitude of this diffusion effect was set to 40% of the direct impact of the policy. Finally, the cross-border effect was neglected, as the policy was unlikely to impact the achievements of German students in territories close to the Polish-German border.

When considering diffusion within objective 5 (Higher productivity of labour market entrants), the workshop participants determined that the 60 minutes commuting zone defines the diffusion range. The diffusion is also expected to benefit the affected territories, although weaker in magnitude compared to objective 3 (maximum of 0.3). Unlike in the case of the education-related objective, the diffusion of labour market outcomes may (according to the experts) penetrate the Polish-German border, and the maximum value of the cross-border coefficient was set to 0.2.

Importantly, if the shared border (neighbourhood of the 1st or 2nd degree) was chosen as the criterion of proximity between territorial units, then one would additionally need to define the value of diffusion for direct neighbours (e.g. 1) and for the neighbours of the second degree (e.g. 0.5). When relying on distance or commuting time between territories, one may use normalised values of these original variables to approximate the "degree of proximity".

The magnitude of diffusion of the policy impact within objective *j*, from territorial unit *k* to *i,* is calculated using the following formula:

$$\boldsymbol{D_{ikj} = \left( S_j \frac{(C_{ik} - maxC)}{-(MaxC - MinC)} M_j B_i \right) F_{kj}} \qquad (4.2)$$

where $S_j$ corresponds to the expected sign of the diffusion effect ($S_j$=1 for beneficial diffusion $S_j$=-1 for adverse diffusion), and Cik is the distance (or commuting time) between territories i and k. As one can see, the proximity measure is normalised (hence the use of MaxC, and MinC). Mj is the maximum allowed magnitude of between-unit diffusion for objective j (taking values between 0 and 1).

Finally, $B_i$ is the optional coefficient used in the case of policies penetrating the state's borders or encountering any other administrative barrier which could weaken the diffusion of the policy impact. In such cases, it is recommended to assign all the territorial units behind the border the value of $B_i$<1, while the units located within the region where the policy is implemented should have $B_i$=1.

The next step involves multiplying the obtained result by $F_{kj}$, that is, by the measure of policy impact in territorial unit k and within objective j, as calculated earlier in subsection 4.6. This way, we obtain a matrix of territorial diffusion from any unit k to any unit i.

The last step is determining the maximum value of $D_{kj}$ for each unit i. In other words, we need to identify the strongest diffusion of policy effects to unit i, considering all possible "source" units. This value ($D_{ij}$=*Max*($D_{ikj}$)) represents the final value of the diffusion effect experienced by territory i within policy objective *j*.

## 4.8. Calculation and interpretation of the final TIA result

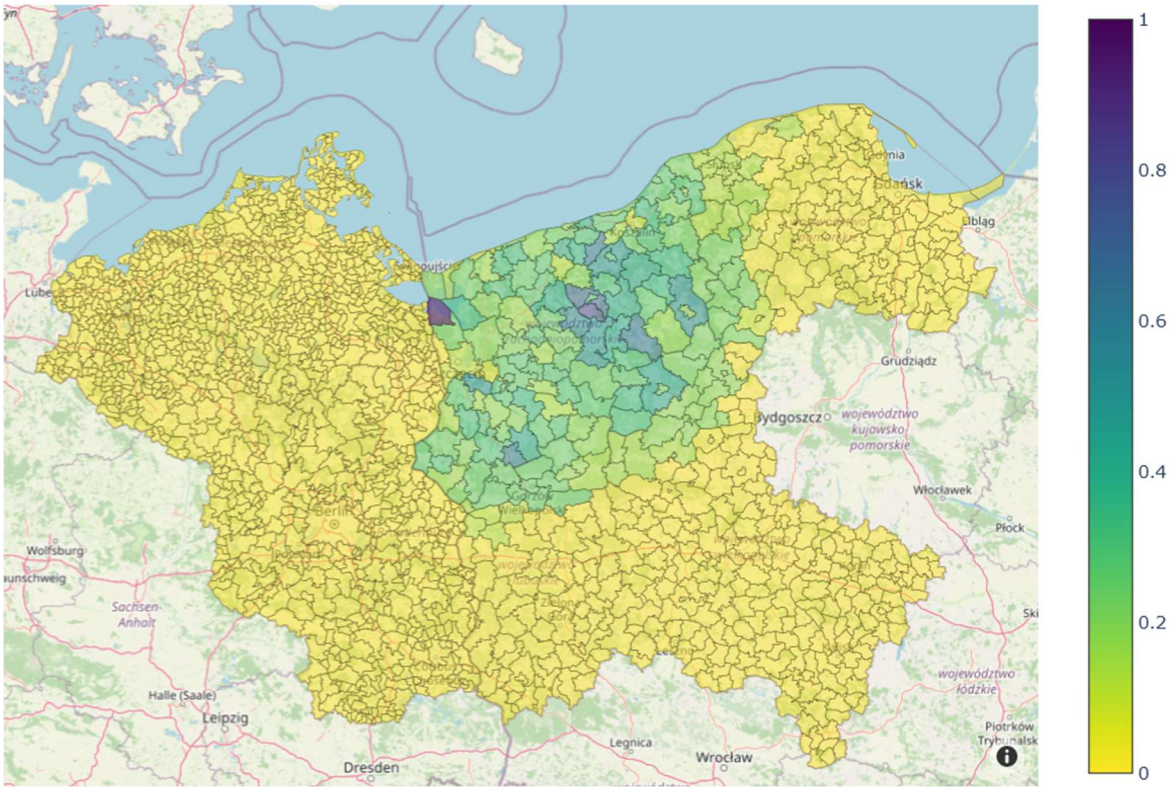
The final SPA(TIA) score for a given territorial unit *i* and policy objective *j* is:

$$\boldsymbol{spa(tia)_{ij} = F_{ij} + D_{ij}} \qquad (4.3)$$

As a sum of direct territorial impact, ranging from 0 to 1, and diffusion effect, ranging from -1 to 1, the total territorial impact of the policy takes values in the range [-1,2].

Figures 9 and 10 show the results of SPA(TIA) for EFWP programme priorities 6(f) and 6(g). Similarly to previous illustrations in this chapter, it focuses on 2 of the 6 objectives of the programme. Dark areas marked on the map indicate a strong positive impact, lighter-shaded areas - a weaker positive impact, and yellow-marked areas - no expected impact of the analyzed policy policy.

**Figure 9. Results of the Territorial Impact Assessment using SPA(TIA). Total territorial impact within EFPW objective 3.**

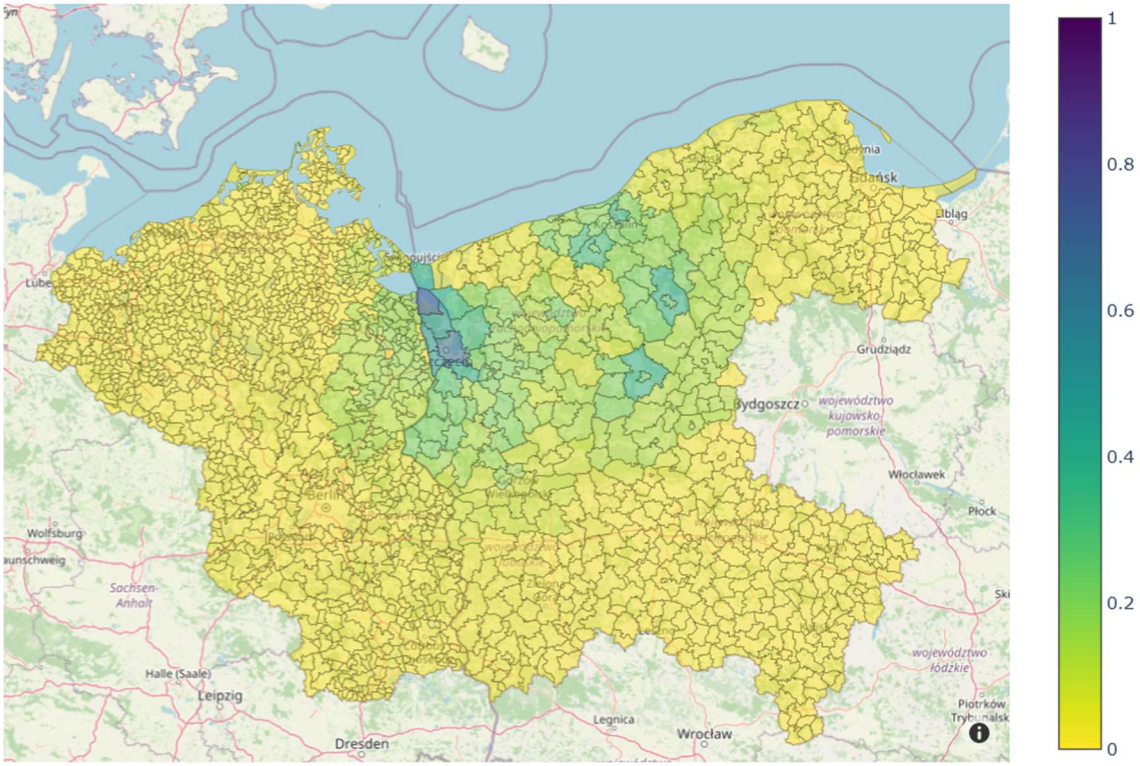



Source: own elaboration

The results indicate that the EFWP programme will likely have positive, territorially differentiated effects, the territorial pattern of which may vary depending on the programme's objectives. For example, from the perspective of improving the academic achievements of students (objective 3), the programme will be particularly effective in the central part of the voivodeship, in Świdwiński and Białogardzki counties (South of Koszalin). One may expect some diffusion of the programme's beneficial effects to the neighbouring voivodeships, although probably not through the border of the state

In turn, when considering the objective of increasing the productivity of labour market entrants (objective 5), the programme is expected to have the most substantial impact in the proximity of the region's largest cities: Szczecin, Koszalin, Szczecinek, and Wałcz. A moderate effect of diffusion is to be observed across the Polish-German border. However, the programme will largely unaffected the central part of the Western Pomerania region.

**Figure 10. Results of the Territorial Impact Assessment using SPA(TIA). Total territorial impact within EFPW objective 5.**




Source: own elaboration.

Although conducting SPA(TIA) requires preliminary desk research and some analytical work with the data, one key element of this method is the workshop, during which the representatives of stakeholders, along with experts and the TIA team, discuss the mechanisms of the territorial impact of the policy they wish to implement. A possible scenario for this workshop, based on the event organised in Szczecin in 2022, is presented in Table 3.

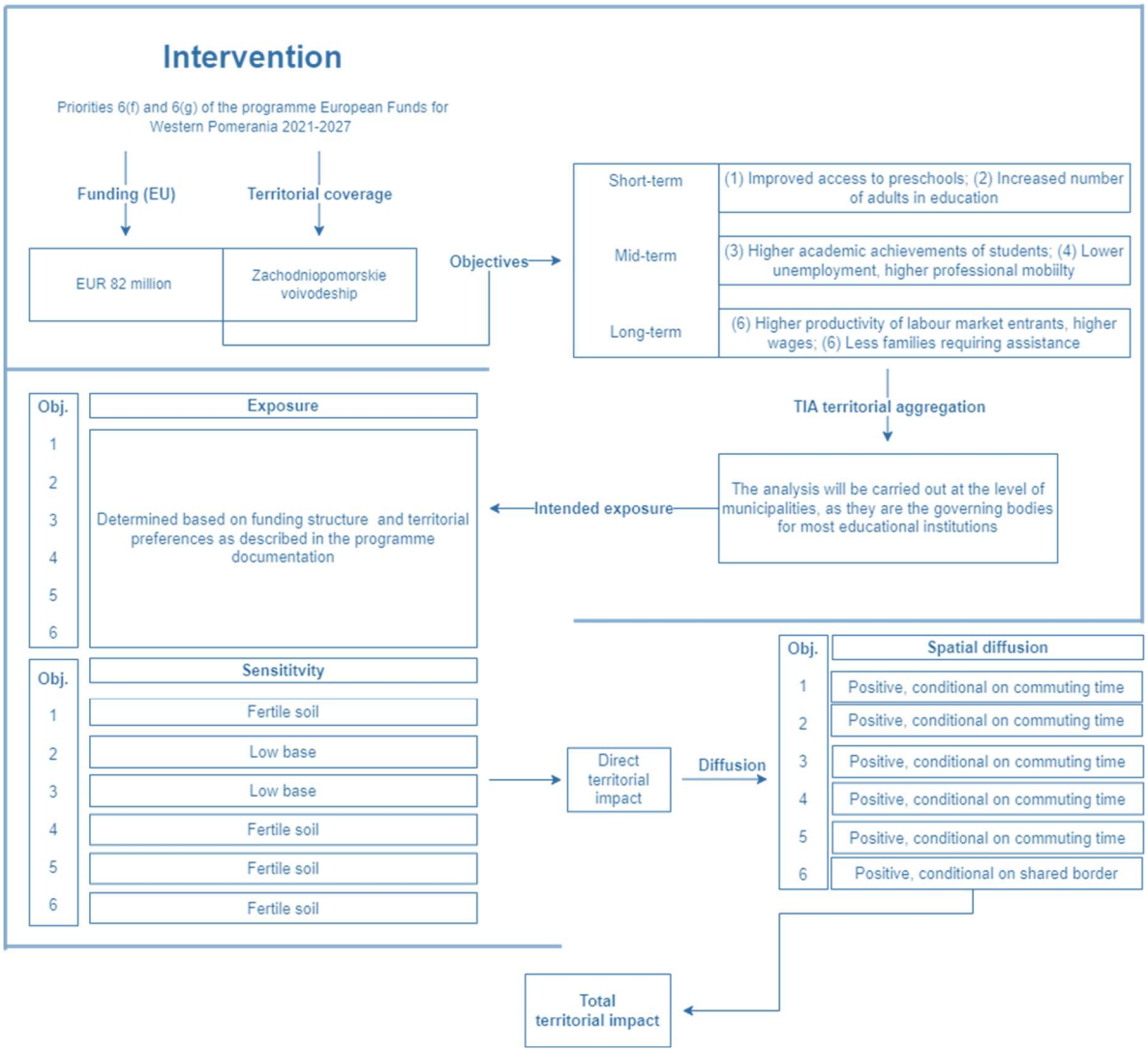
**Table 3. An indicative scenario of a two-day SPA(TIA) workshop based on the Szczecin workshop held on November 7-8, 2022**

| Scenario element | Form |
|---|---|
| **Part 1 Introduction to SPA(TIA)** | |
| Information on TIA methods | Powerpoint presentation |
| Features of SPA(TIA) | Powerpoint presentation |
| **Part 2 EFWP Programme and its objectives** | |
| Basic facts on the programme | Powerpoint presentation |
| Selecting the policy (part of the programme) to be analysed | Moderated discussion |
| Defining objectives in relation to the time horizon | Work in subgroups and discussion or the results |
| **Part 3. Exposure and sensitivity of territorial units** | |
| Exposure and sensitivity: defining notions, understanding the difference | Powerpoint presentation |
| Defining the criteria of territorial exposure | Joint discussion, micro-survey if necessary |
| Rules of sensitivity: low base, fertile soil, other? | Powerpoint presentation |
| Working out the sensitivity of territorial units within objectives | Work in subgroups (including micro-surveys), joint discussion |
| **Part 4 Diffusion of the effects** | |
| Theoretical foundations of spatial diffusion, possible approaches | Powerpoint presentation |
| Defining rules of diffusion for particular objectives of EFWP | Work in subgroups (including micro-surveys), joint discussion |
| **Part 5 Presentation of the results** | |
| Presentation of the maps | Powerpoint presentation and discussion |

Source: own elaboration.

The entire SPA(TIA) procedure, discussed in detail in sections 4.1 to 4.8 of this chapter, is further illustrated in diagrammatic form in Figure 11.

**Figure 11. A complete diagram of the SPA(TIA) procedure**




Source: own elaboration

# 5. Review of applications of TIA performed within the pilot action

## 5.1. Using TIA to evaluate cross-border projects

### TIA pilot project in the Czech Republic: a case study of the Jeseník micro-region

#### Introduction

In the Czech Republic, the partner in the pilot action *Understanding how sector policies shape spatial (im)balances: Region-focused Territorial Impact Assessment* was the Ministry of Regional Development. This institution decided to implement a relatively simple *Territorial Impact Assessment (TIA*) to study the impact of EU funds on the Jeseníky micro-region. The method used by the Czech partners was inspired by a study entitled "Methodology for Territorial Impact Assessment of Interventions/Projects", resulting from a research project "Territorial Impact Assessment of Interventions/Projects". "Effects of Spatially Determined Projects' funded by the Technology Development Agency of the Czech Republic (TAČR) from the Beta Operational Programme. Its main objective was to design an ex-ante evaluation concerning the use of the methodology for the initial estimation/evaluation of the territorial impact of projects supported mainly by EFSI. Still, the proposed methodological procedures allow the method to be also used for the ex-post evaluation of implemented projects and retrospective verification of the actual territorial effects resulting from their implementation. This methodological study is available (in Czech) at the following link: www.tiammr.cz.

#### TIA methodology

The pilot project on the Jeseník micro-region used the methodology of territorial impact assessment of interventions and projects to answer the research question; which characteristics of the territorial unit and how was the intervention affected.

The methodology is divided into two phases. In the first phase, it is assessed whether a TIA (i.e. "necessity check") is necessary and what the context and intensity of the potential impact of intervention would be. The first phase is based mainly on desk research, including collecting contextual information about the intervention and territorial unit under analysis.

The outcome of the analyses carried out in the first phase determines the application of one of four potential methodological scenarios:

A. 0-9: The intervention (project/policy) is considered to have a minor territorial impact, and no further analysis is necessary. The intervention can be analysed using other standard methods, such as cost-benefit analysis or feasibility studies. However, the intervention should not generate significant territorial impacts.

B. (b) 10-19 points: Use methodology A designed for interventions with medium territorial impact.

C. (c) 20-29 points: Use methodology B designed for interventions with significant territorial impact.

D. (d) 30-39 points: Use methodology C designed for interventions with significant territorial impact.

Methodologies A - C[26] differ according to the evaluation's complexity level. In other words, methodology C expects the evaluator to analyse and describe more impacts in more detail. All three methodologies include a basic theory of change, a description of the affected actors, and an assessment of the relevance and significance of individual impacts (i.e. the likelihood of impact, type of territory affected, scale of population affected, intensity of impact).

The study's second phase is based on qualitative field research reflecting a participatory approach. Therefore, it is necessary also to include local/regional stakeholders and field experts. The relevant methodological procedure (type A, B or C) identified in the previous phase is applied in the second phase of the evaluation.

It was decided to apply an ex-post analysis and assess the impact of EU-funded projects in the 2014-2020 programming period within selected thematic areas in the Jesenik micro-region. The thematic areas analysed were as follows:

- Employment,
- Social inclusion,
- Transport,
- Support for small and medium enterprises,
- Research and development support.

In the first phase, the Czech team conducted desk research to assess the following issues:

- Amount of EU funds allocated in Jeseníky micro-region,
- List of significant projects,
- Evolution of key socio-economic indicators reflecting the themes analysed (employment, transport, etc.).

GIS software visualised critical results on EU funds allocated and changes in selected socio-economic indicators.

[26] Methodologies A-C were developed within the framework of the aforementioned research project "Effects of spatially contingent projects" by the Technology Agency of the Czech Republic, available at: www.tiammr.cz.

In the second phase, a workshop was organised on 24 June 2022 (held in the town of Jeseník) with key local stakeholders from the Jeseník micro-region. Fifteen participants were invited, including, among others, representatives of local authorities, representatives of NGOs and chambers of commerce. The workshop was divided into five parts, each devoted to one of the thematic areas. First, representatives from the Ministry of Regional Development presented the main results of the desk research. They focused on several projects supported by EU funds, changes in relevant socio-economic indicators, etc. Secondly, the Ministry representatives initiated a discussion on the questions listed below, which were answered in turn for each topic:

- To what extent have EU funds contributed to improvements in the labour market/small and medium-sized enterprises/transport etc.?
- Was the level of support sufficient - i.e., was sufficient EU funding allocated in the micro-region?
- Did the support take into account the specificities of the micro-region?
- How would you change the policy to reflect the specificities of the micro-region?

The workshop lasted approximately 2.5 hours.

**Findings**

*Overall results*

Representatives of local stakeholders were positive about the amount of EU support allocated to the Jeseníky micro-region after 2014. However, participants expressed some concerns about the form of EU support. In their opinion, grants/subsidies are of limited motivation, while their effect can be considered relatively short-lived. In this context, they mentioned several situations in which applicants may have behaved irrationally to obtain a grant.

At the same time, workshop participants highlighted challenges to the effectiveness of EU support due to excessive administrative burdens during project implementation. Although the situation with project administration is improving in the Czech Republic, it can be noted that some beneficiaries still have an aversion to bureaucracy. As a result, they prefer, for example, to finance investments from their own resources.

*Employment*

Local stakeholders overwhelmingly perceived that the allocation of EU funds in the labour market thematic area was sufficient. On the other hand, they did not perceive the support from EU funds as place-based or location-specific. Workshop participants suggested further support for new forms of employment – co-working, innovation hubs, and easier work-life balance.

These recommendations could be considered general and relevant to basically all other Czech Republic regions. However, improving the conditions for remote working could enable more people to live in the Jeseník micro-region.

*Social inclusion*

Local stakeholders felt that networking of all relevant actors in social inclusion is needed. Funding is sufficient to cover the needs of the micro-region, but it is distributed among too many beneficiaries working on projects with similar objectives.

Local education experts stated that there are potential problems related to the lack of funding for school assistants and teachers specifically dealing with social issues. These posts are often funded from EU sources, which creates risks regarding their sustainability.

Stakeholders attending the workshop emphasised that many non-profit organisations are in the Jeseník region, and their support is essential. However, they felt that sometimes support from different programmes overlaps, which is not a positive development.

*Transport*

Most workshop participants perceived that EU funds have not significantly improved the accessibility of the micro-region. This is understandable, given that the micro-region is peripheral and mountainous. Physical barriers were difficult to overcome despite the investment of significant EU funds.

Stakeholders did not have many suggestions for improving the accessibility of the micro-region. They only directed general comments to support rail connections further.

*Support for small and medium-sized enterprises*

Local stakeholders suggested sharing good practices in bridging the public and private spheres: networking and workshops. Participants felt that small and medium-sized enterprises are often unaware of grant opportunities, so informing them about opportunities to develop their businesses regularly is crucial.

Those attending the meeting also emphasised that more and more companies have to finance their organisation's activities from their own resources rather than from EU funds. This is because of administrative requirements (see above) and probably insufficient organisational knowledge and capacity.

*Research and development support*

This topic is crucial for the Jeseník micro-region. However, stakeholders acknowledged that there are significant deficits here. Workshop participants emphasised the importance of knowledge and innovation in today's world. However, it was noted that the economy's structure in the micro-region under study has been stable for a long time, and many manufacturing companies are located here. Many of them are suppliers to other companies, but the position of local economic actors in value chains is low.

Local stakeholders suggested:

- Support for innovative technologies in agriculture,
- Support for local farmers: education, networking, subsidies,
- Support in grant preparation and simplification of the entire application process,
- Support for innovative projects in cooperation with universities,
- Support for gifted students.

### Conclusions

The method included quantitative and qualitative methods and can therefore be considered comprehensive. It enabled the involvement of local stakeholders and allowed the Czech project team to obtain their opinions in a structured way. The methodology was relatively simple and, therefore, easy for the participants to understand.

The scope of the study was relatively narrow and only allowed for a focus on one micro-region, which made an in-depth analysis possible. This may appear to be an advantage, as it was possible to discuss the specific situations and needs of the territory in detail.

Due to the simplicity of the method, the Czech project team did not use any sophisticated techniques, such as counterfactual analysis, but stuck to basic tools. A limiting factor was local stakeholders' knowledge of the impact of EU funds on regional development.

The project focused on one well-defined micro-region. As such, the conclusions are only relevant to this specific territory (although, to some extent, they could be applied to areas with similar socio-economic conditions and geographical locations). The various methodologies look at the potential impact of specific policies across all EU country/area regions - this would not be the case with the tested method.

Local stakeholders declared their willingness to participate in the evaluation procedure and expressed satisfaction with the pilot's focus on the Jeseník micro-region. This may suggest a communication gap between the national and regional or local levels concerning the territorial assessment of development activities undertaken. The TIA can therefore serve (indirectly) as a tool to further communicate national policy with regional and local stakeholders.

## TIA pilot project in Slovenia: a case study of the rural area of Obsotelje and Kozjansko and the Cultural Heritage Strategy 2020-2023

### Introduction

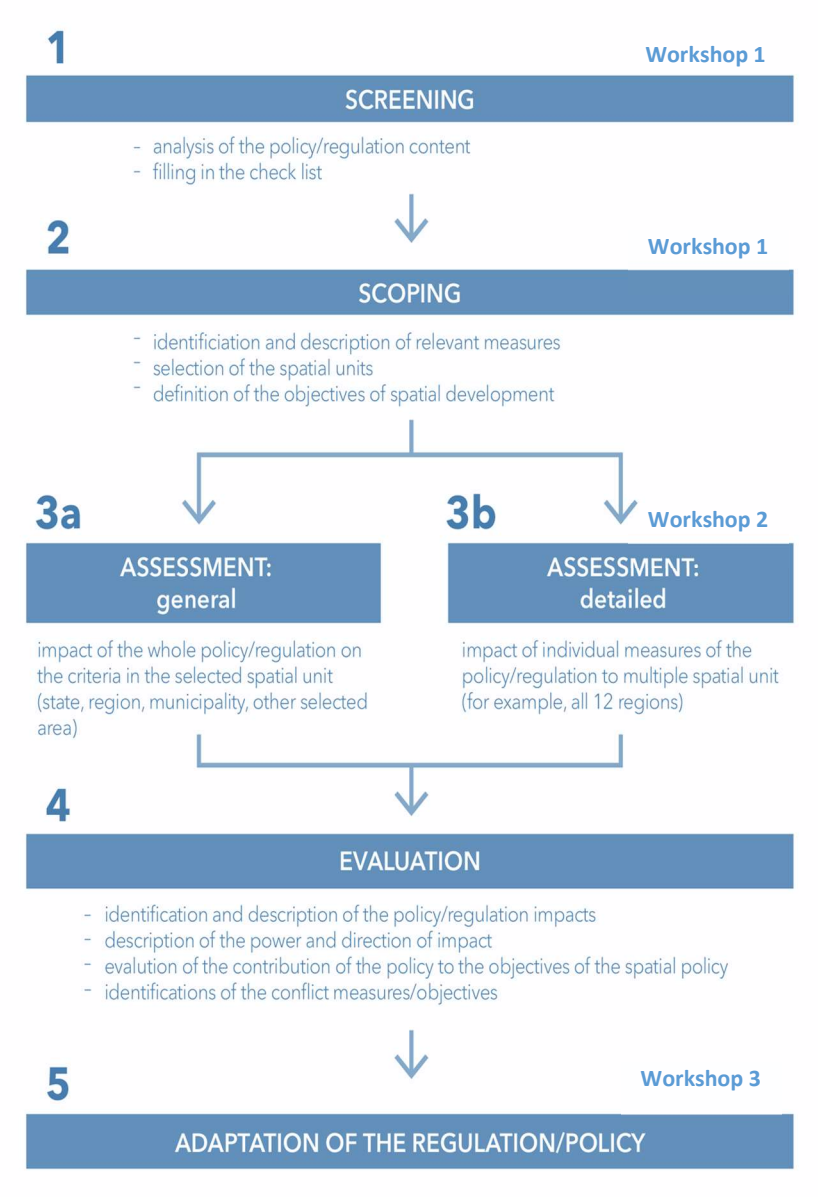
In Slovenia, the partner in the pilot action *Understanding how sector policies shape spatial (im)balances: region-focused Territorial Impact Assessment* was the Ministry of Environment and Spatial Planning of the Republic of Slovenia. The Ministry and invited stakeholders selected the Cultural Heritage Strategy 2020-2023 for further analysis. The document was prepared by the Ministry of Culture and adopted in 2019 to integrate cultural heritage conservation and (regional) development better. The strategy's main objective was to create synergies between existing sectoral objectives and guidelines, which are important for heritage conservation and improvement. The territorial impact assessment was considered an ex-ante exercise, as most of the actions have not yet been implemented. The method used for this case study was an adaptation of the EATIA approach, which consists of four steps: qualitative screening and scoping stages, quantitative evaluation and qualitative-quantitative evaluation.

The Slovenian case study covered the rural area of Obsotelje and Kozjansko, located in the eastern part of Slovenia. The cross-border area on the Croatian side includes 8 of the 25 municipalities in Krapinjsko-zagorska županija.

### TIA methodology

For the rural case study area, an adapted EATIA approach to TIA was applied (Camagni, 2009, Fischer et al., 2012). The method used is primarily qualitative in nature. It is a 4-stage simplified assessment procedure based on participatory techniques: (1) screening - preparatory phase, (2) scoping, (3) assessment and (4) evaluation. A joint workshop was held for phases 1 and 2.

**Figure 12. Steps of the method**




Source: Manca Krošelj, UL BF.

The evaluation was carried out individually; however, an online workshop was held to clarify the approach. Evaluation (final stage) was done internally, and the results were elaborated during workshop 3. Using this approach, the evaluated current/ex-post impacts were grouped into social, economic, environmental and spatial and governance impacts. The indicators for the selected policies were predetermined and chosen by a team of experts from the University of Ljubljana (UL).

*Screening (preparatory phase)*

During the preparatory phase, a policy document was selected based on the analysis (screening) carried out by UL researchers. The policy was selected together with the stakeholders of the pilot action: Regional Development Agency Sotla and the Ministry of Environment and Spatial Planning of the Republic of Slovenia. The pros and cons of the list of pre-selected policies were considered, and the final decision was made taking into account the position of municipal representatives and regional stakeholders and their interest in the heritage potential for the area. Thus, it was decided that the *Strategy for Cultural Heritage 2020-2023*. would be subject to the TIA analysis.

*Scoping (Workshop 1, stationary)*

The first on-site workshop took place in November 2021, was attended by 18 people and lasted approximately four hours. In the first part of the workshop (brainstorming),

participants were asked to individually identify potential impacts of ongoing policies. Participants were also asked to identify the policy actions causing these impacts.

The second part of the workshop was a group discussion based on four questions:

- Which activities have a territorial impact?
- Does the identified territorial impact depend on the type of area (e.g. urban vs rural)?
- Will any of the activities have a cross-border effect?
- Is it known whether any of the activities are already being implemented? (This question depends on the type of evaluation: it is only appropriate for ongoing or ex-post evaluations).

Subsequently, the Slovenian team wanted to investigate whether impacts differ according to the type of area (urban/rural) and whether any of the activities also cause cross-border impacts.

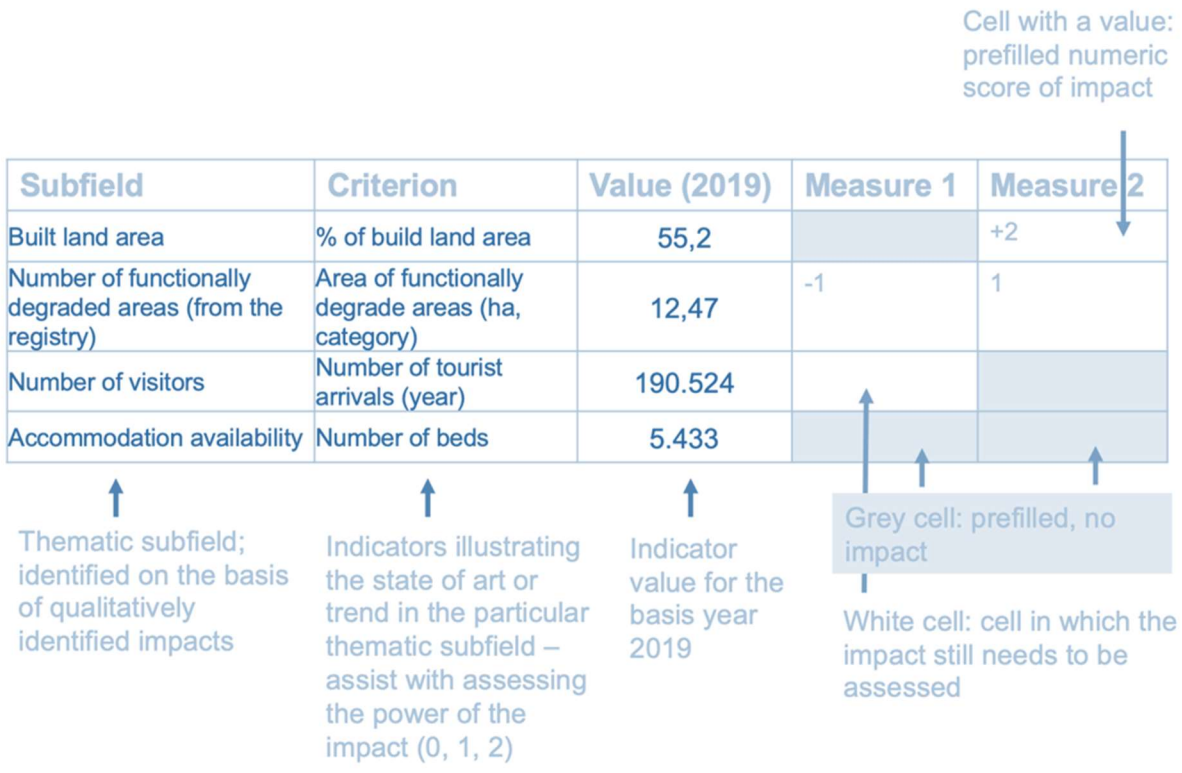
*Quantitative assessment and evaluation (workshop 2, online)*

In preparation for the second workshop, the UL facilitators combined and analysed the results and prepared an assessment matrix. The assessment matrix consists of thematic subfields extracted on the basis of qualitatively identified impacts and criteria, together with indicators illustrating the present or a trend (usually calculated for 5 years). Where impacts were already identified during Workshop 1, the numerical scoring was completed based on the assessed nature (+/-) and frequency of listing each impact.

The values of the indicators were aggregated to the level of the study area in 4 domains: environment and space (6 indicators), economy (9 indicators), society (5 indicators) and governance (3 indicators).

Stakeholders completed the evaluation matrix during the second workshop, which was organised remotely. The results of this exercise are shown in the Figure 13.

**Figure 13. Excerpt from the assessment matrix covering the environment and space area**




Source: own study.

*Evaluation (workshop 3, stationary)*

The analysis of the impact assessment matrices was carried out by activity, indicator areas and in terms of the contribution of the Cultural Heritage Strategy activities to the achievement of the selected reference framework. The reference framework consisted of the following policies: Priorities of the Territorial Agenda 2030, priorities of the Spatial Development Strategy of the Republic of Slovenia 2050 and objectives of the Savinjska Regional Development Programme.

The last workshop presented the evaluation phase results and discussed potential actions to be adapted in the evaluated policy based on undesirable/desired territorial impacts and conflict resolution measures. Participants identified the strengths of the proposed method and its application in their daily practice.

**Findings**

The impact ratings of the Cultural Heritage Strategy in the pilot area regarding their value and direction are very similar, all relatively positive. The average impact assessment is similar for all policy pillars, ranging from 0.7 to 0.8. Most of the actions in the "development" pillar of the strategy are territorially sensitive.

For 9 of the 41 actions, the identified territorial impact varies according to the type of territory (urban vs. rural), size and budget of the municipality, spatial conditions, research and educational institutions, etc. According to the quantitative assessment results, the strategy will not cause territorial imbalances in the selected pilot area.

**Table 4. Contributions of the Strategy's measures to the TA2030 Priorities**

| Priority of Territorial Agenda 2030 | Pillar 1: Society | Filar 2: Deve-lopment | Pillar 3: Knowledge | Measures which contribute to the priority very positively. |
|---|---|---|---|---|
| P01: Balanced Europe – Better balanced territorial development utilising Europe's diversity | 0.1 | 0.4 | | / |
| P02: Functional regions – Convergent local and regional development, less inequality between places | 0.2 | 0.6 | 0.1 | / |
| P03: Integrating beyond borders – Easier living and working across national borders | 0.3 | 1.0 | 0.1 | M03, M05, M13, M14, M15, M18 (2.0), M21, M22, M25 |
| P04: Healthy environment – Better ecological livelihoods, climate-neutral and resilient towns, cities and regions | 0.2 | 0.5 | 0.1 | / |
| P05: Circular economy – Strong and sustainable local economies in a globalised world | 0.1 | 0.5 | 0.1 | / |
| P06: Sustainable connections – Sustainable digital and physical connectivity of places | 0.1 | 0.5 | 0.1 | / |

Source: own elaboration.

The most visible overall contribution of the Cultural Heritage Strategy to the PT 2030 Priorities is cross-border integration (P03), with the development pillar actions having the most significant impact on this Priority (7 of which are listed in Table 4 as making a very positive contribution). In contrast, the activities of the Cultural Heritage Strategy contribute minor to the Sustainable Spatial Development Priority (P01), despite the wide range of activities of the development pillar of the Strategy (17 activities).

The impact of *Cross Border Cooperation* (*CBC*) was assessed only qualitatively. The national-level representatives set the least activities as CBC activities (7/41 activities), and the Croatian Regional Development Agency the most (22/41). Within the development pillar, the most CBC impacts were identified, such as integrating heritage into spatial acts and development programmes, promotion and joint presentation of projects. A better interpretation of heritage, improvement of identity and accessibility are the identified impacts of the social pillar. At the same time, student exchange, cooperation of professionals and project partners, multilingual access to information, digitisation, etc., are activities under the knowledge pillar.

### Conclusions

Some previously known strengths of the EATIA approach were also confirmed in this testing. These include the brainstorming (qualitative assessment), which proved helpful in listing all possible impacts of a given directive/policy/legislation, the view of sectoral policies from a territorial/spatial planning perspective, the established dialogue with and between stakeholders, the use of territorial policies as an assessment framework (other approaches do not always include them) and the assessment supported by indicators. One change was implemented compared to the original approach, i.e., the research team pre-filled the matrix based on brainstorming results, which participants welcomed.

The assessment matrix for the quantitative part of the evaluation remains the most problematic element of the EATIA approach. The dimensions of the matrix depend on the number of indicators selected to reflect the implementation of the sectoral policy in a given area (usually around 20) and the number of actions with potential territorial impact. If there is already a large number of measures in a given policy, e.g. more than 100, even selecting from the whole list may entitle a large number of activities, e.g. around 30-40. This may mean a matrix of 600 cells, which may be too large for stakeholders to fill. It was also pointed out that a more detailed description of the areas for which impacts were selected was missing. An area was only "described" through the value of the indicators in the assessment matrix without accompanying text. We tried to collect more data, including on cultural heritage. However, there is little data and generating it would be a separate study (according to the Ministry of Culture). Stakeholders also mentioned the lack of data; hence not all indicators are quantifiable. At the institutional level, some concerns were expressed about the lack of support for such evaluations, including unavailable financial and human resources.

Additional challenges included distinguishing between indirect and direct impacts and drawing a line between the two. We conclude that, for greater clarity, it is best to focus on direct impacts, omitting indirect effects or describing them only qualitatively.

## TIA pilot project in Slovenia: a case study of EGTC GO!

### Introduction

The second Slovenian pilot area was the cross-border area of the municipalities of Šempeter-Vrtojba and Nova Gorica in Slovenia and Gorizia in Italy, all three being part of a European Grouping of Territorial Cooperation (EGTC) called EGTC GO!

EGTC members and other stakeholders selected the Strategy for Transport Development in the Republic of Slovenia until 2030 for evaluation. The vision of the transport policy is to ensure sustainable mobility of the population and supply of the economy with the following general objectives: (1) improving mobility and accessibility, (2) improving the supply of the economy, (3) improving transport safety and security, (4) reducing energy consumption, (5) reducing costs for users and operators, and (6) reducing environmental burdens. The specific sub-objectives relate to the efficiency or cost-effectiveness of the listed measures for each transport domain: rail, road, urban/public transport, waterborne and air transport. Within each area, 21 sub-objectives and 108 actions relating to them are listed. During the pilot activities, it was decided that the Strategy would be updated, which was also communicated to stakeholders and implemented in the pilot area activities.

### TIA Methodology

In the case of EGTC GO!, the TIA approach was adapted to the needs of the pilot area. The project team kept the screening structure and the first workshop similar to the pilot area Obsotelje and Kozjansko (EATIA approach). However, the *capacity-building* workshop and the discussion on guidelines and policy adaptations replaced the assessment and evaluation. Also, cross-border stakeholders' involvement differed from the activities in the Obsotelje and Kozjansko pilot area, as the Italian side only gave one interview for the TIA and did not participate in the workshop or the evaluation.

#### *Screening (preparation phase)*

In the preparatory phase, the Strategy for the Development of Transport in the Republic of Slovenia until 2030 was selected for analysis. In addition, local stakeholders expressed a desire to focus the discussion on the relationship between the regional/local and national levels in policy making and implementation, which was taken into account. A logic chain (intervention logic) for the policy was prepared, with few indicators found in the area of transport at the local/regional level.

#### *Scoping (workshop 1, on-site)*

Twenty-one participants attended the first on-site workshop. In the first part of the meeting (brainstorming), participants were asked to identify the potential policy impacts of the implemented Strategy according to four thematic groups (society, economy, environment and space and governance). They were also tasked with identifying the measures causing these impacts using a logical chain (intervention logic) for the policy. Workshop participants then discussed whether or not the effects identified were transboundary in nature.

In addition to the workshop, which was attended only by representatives of the Slovenian side, the researchers interviewed a representative of the Italian municipality of Gorizia. The main aim of the interview was to validate the information collected during the first workshop for the Gorizia cross-border area and to identify differences and similarities in transport management.

#### *Knowledge exchange and capacity building (workshop 2, on-site)*

The second meeting discussed the cross-border context for addressing transport development issues. As agreed, this workshop highlighted the specificity of the cross-border area for policy-making and the role of the EGTC. A discussion was held on the possibilities of solving cross-border transport problems with different financial sources, institutional support, the role of various stakeholders in the process (EU, national, regional) and project themes.

#### *Input paper for the policy-making process (a report summary/a policy brief)*

As agreed at the beginning of the evaluation process, the main outcome of the pilot activities was to be the communication of messages from the local and regional level to the national level as input to the process of updating the national transport policy. The communication included a summary of the findings and recommendations from the first workshop. In addition, participants were asked to complete an online survey on the message they would like to convey to policymakers. A further meeting was organised with local stakeholders (representatives of the two municipalities) to finalise the content of the intended message/message.

### Findings

The impact of the Strategy to date has been identified through the individual reflection of participants and the discussion that followed. The project team was interested in its implications for the economy, society, environment and spatial and territorial governance. The results are presented by thematic cluster, highlighting the impacts with the highest frequency of indications. The selected actions of the Strategy were assessed in the area of rail transport (15 out of 29 actions), road transport (15 out of 37 actions) and urban/public transport (14 out of 22 actions), which were identified as relevant for the GO EGTC area. The greatest number of impacts was identified in society, while the least was identified in the economy. Among the impacts, those related to sustainable mobility and cycling and preparing different transport strategies and management measures were particularly prominent.

**Table 5. Impacts of the national transport strategy on the fields of economy, environment and space, society and governance.**

| ECONOMIC IMPACTS | SOCIAL IMPACTS |
|---|---|
| – Increased competitiveness of the local economy through faster travel times, improved traffic flow and greater efficiency of the network and the bike-sharing system<br>– Free public passenger transport on the MONG-Sempeter-Vrtojba route<br>– Reorganization of transport, increased financial sustainability of rail transport<br>– Extension of the car-train line via the Bohinj line to Nova Gorica (via Most na Soči) | – Free JPP<br>– Soft measures for sustainable mobility, raising awareness: mobility week, establishment of a TIC mobility centre in NG<br>– Improving road safety<br>– Single ticket<br>– Inhabitants' opposition to the construction of cycle lanes<br>– Improvement of the network of cycling links within the city (along the railway line) and between GO and NG, planned creation of a long-distance NG-Ajdovščina cycle route<br>– Deprivation of rural population due to non-implementation of the measure "implementation of public service contracts" |
| **ENVIRONMENTAL AND SPATIAL IMPACTS** | **GOVERNANCE IMPACTS** |
| – Improvement of the urban cycling network and partial connection outside the city (Solkan-Šempeter)<br>– Positive environmental impacts - cleaner air, reduced noise and emissions and increased energy efficiency<br>– Introduction of an urban bike rental system<br>– Increase in the number of charging stations for electric vehicles<br>– Relocation of the freight railway station from NG to Prvačina (2 times)<br>– Reduction of traffic - more use of JPP<br>– Preparation of a cross-border mobility plan (NG-Gorizia)<br>– Reconstruction/rehabilitation of roads at the secondary and tertiary level<br>– Renovation of the main Bača-Idrija road | – Establishing a more integrated cycle area planning, marking a common cycle network at the regional level<br>– Adoption of an Integrated Transport Strategy and Preparation of a Mobility Policy<br>– Improved cross-border network connectivity<br>– Creation of more accessible inter-urban JPP - Nomago<br>– Preparation of sustainable urban strategies -> Nova Gorica; 2014-2020 |

Source: own elaboration

Overall, the Strategy was assessed to have minor transboundary impacts.

According to the meeting participants, 25 measures (the Strategy counts 108 of them in total) were expected to have an impact on the analysed territory, of which 10 out of 29 concerned the area of rail transport, 7 out of 37 concerned road transport and 8 out of 22 concerned urban public transport. The most frequently mentioned measure was U.17 - Cycling network: plan for the development and categorisation of national and suburban cycling routes and infrastructure, which corresponds to the objective of improving national and regional connectivity in Slovenia and improving passenger accessibility to and within major urban agglomerations. The second most successful measure was R.22 - Electrification of regional railway lines to improve the performance of existing infrastructure, which addresses the objective of improving transport links and alignment with neighbouring countries and the objective of improving national and regional connectivity within Slovenia.

Transport planning challenges can be grouped according to the frequency with which they were mentioned. The first group includes, in particular, problems relating to the national level and, at the same time, arising from the cross-border nature of the study area. These include:

- the lack of decentralisation of public services, which in the alternative could have a positive impact on population mobility,
- disconnection of passenger transport systems in a cross-border area,
- Lack of cooperation between countries on transport planning,
- international connectivity of Nova Gorica,
- poor rail connections, poor integration of rail transport with urban and road transport systems,
- low awareness of sustainable mobility among the population, especially among the middle and older generations,
- the peculiarities of Nova Gorica as a border town, as well as other issues.

Those who participated in the workshops pointed out the difficulty of preparing new projects, mainly due to a lack of ideas when funding should be sufficient to implement them. It was also highlighted that the public transport network is outdated.

Participants felt that implementing the integrated transport strategy was only partially effective. The following issues were indicated at the national level: the disconnect between spatial and transport planning and how traffic signage and management on national roads should also include a cross-border aspect. The challenge of measuring traffic and monitoring traffic volumes in the study area was highlighted. As local problems, workshop participants pointed out the lack of visibility of the public

passenger transport offer and the need to digitise it, the lack of knowledge about the location of bus stops, the insufficient network and connectivity of national and local transport links, including pedestrian and bicycle links, and the status of the bicycle road running along Vojkova Street - a status that should be regulated at the national level.

The identified challenges for transport planning in the study area were also confirmed by the Italian partners, who agreed with most of the problems signalled. However, they were less critical concerning assessing rail connections and infrastructure. It was noted that cross-border management and coordination of passenger transport systems are discussed at the intergovernmental level in regular bilateral meetings between Italy and Slovenia, represented by the Friulia-Venezia Giulia Region and the Slovenian Ministry of Infrastructure.

### Conclusions

Considering the needs of the local level in the EGTC GO! pilot area, the Slovenian project team focused on implementing the first part of the territorial impact assessment procedure, i.e. the contextualisation and qualitative identification of the impact of the analysed policy. Thus, the chosen approach combines territorial impact assessment and policy analysis, offering a more locally tailored approach to the analysis and evaluation of national policy implementation.

To sum up, there is a need to recognise that various approaches to policy evaluation/analysis can produce valuable results for local, regional and national stakeholders in relation to current policy implementation or planning. In addition, it is necessary to organise discussions on the ground where policies are implemented between national and local/regional decision-makers. This deficit of talks was identified as one of the biggest problems resulting in policies not adapting to the territory and not responding to local and regional needs or cross-border issues.

The main advantage of the approach used was that it was tailored to the needs of local and regional stakeholders. They wanted to express their voice to national policymakers and therefore strongly reported the need to adapt the original TIA process, which was specifically adapted for Workshop 2. Another advantage of this approach is that it takes into account the specificities of cross-border areas and the EGTC as a specific governance instrument to support cross-border regions. The implementation of the TIA provided an opportunity not only to reflect on the topic of transport in this context but also on the functioning of EGTCs in Europe and the resolution of cross-border problems. In addition, it allowed stakeholders to talk about project development and fundraising, which they felt was lacking in CBC areas. Finally, the second workshop was organised when updating the national policy began, so the results were presented at an ideal moment to be integrated into this process.

The main weakness of the approach described was that the TIA was not carried out in its entirety but only partially. Secondly, Italian stakeholders were not heavily involved in the process, so the assessment is mainly on the Slovenian side. Thirdly, it was impossible to attract any stakeholders from the transport sector to provide an alternative view of the policy and its implementation.

## TIA pilot project in Germany and Poland: a case study of railway line No. 203/Eastern Railway

### Introduction

In Germany, the partner in the pilot action *Understanding how sector policies shape spatial (im)balances: Region-focused Territorial Impact Assessment was the* Joint Planning Department of Berlin and Brandenburg, and the TIA contractor was the Austrian Institute for Spatial Planning. In this case, it was decided to design a proposal for a territorial impact analysis approach to extend a railway link and test it in a cross-border area. Using the example of the "Ostbahn - Linie 203" railway line connecting Berlin (DE) and Gorzow (PL), an attempt was made to test the potential multidimensional effects of the implementation of cross-border railway infrastructure and, as a result, to develop and test a generalised TIA method that can be applied to territorial impact analyses for cross-border infrastructure in general.

### TIA methodology

Synthesising, the method used in this pilot action consisted of an analytical comparison of the characteristics of the territory in question with the intensity of change resulting from the expansion of the railway infrastructure (i.e. the implementation of transport policy investments). Territorial impacts were examined in the areas of accessibility, economy, environment, population and cross-border cooperation. The results produced consistent justifications for investment in cross-border rail infrastructure.

The approach to TIA used was based on three basic assumptions.

Firstly, the so-called concept of vulnerability was chosen as the basis for the assessments. According to its assumptions, territorial impact is described as the product of a region's exposure to an external stimulus and its vulnerability. Two issues were subject to review:

- "Impact" describing the strength and type of effects produced by the external stimulus under study (here: railway infrastructure development) on the territory under analysis.
- "Sensitivity" reflecting the extent to which the specific characteristics of the territory reflect its receptivity to the external stimulus under analysis.

Secondly, emphasis was placed on the interactivity of the approach. While the preparation of the data and the development of the analyses (including the maps) was done

by the project team, the discussion and verification during the expert workshops with the stakeholders invited to participate in the study were crucial for the evaluation.

Thirdly, the project emphasised qualitative assessments. It was pointed out that the relatively "small size" of the affected territories and the highly specialised information discouraged using quantitative analyses as non-exhaustive. According to the project team, qualitative assessments supported by regional experts provided greater depth and accuracy of results. Quantitative contextual data were used where possible but were seen primarily as bringing significant informative value to further qualitative analyses. This approach also allowed for a more accurate graphical visualisation of the effects, independent of administrative borders and regions (which often determine the availability and level of aggregation of statistical data).

At an operational level, the methodological concept can be described in five steps in a continuous dialogue between the project team and regional stakeholders.

The first step was to define the study area and to analyse in which socio-economic context the rail investment under consideration takes place. This task was based on an analysis of existing data. It was necessary to define the extent of the territory to be analysed, understood as the distance from the studied railway line, and to delimit the cross-border functional area (potentially, but not necessarily identical to, the first one). In addition, a regional profile was created, presenting the territory's basic characteristics taken from statistical data. This was a reliable and credible basis for further assessments, including, e.g. demography, economic structure, commuting zones, and spatial and geographical features. Care was taken to ensure that the catalogue of referenced information was not overly extensive but valuable and tailored to the objectives of the TIA. Therefore, data selection focused on selecting specific or distinctive aspects of the territories analysed, omitting "irrelevant" (i.e. non-differentiating) data. As a result, it was possible to identify scenarios for the emergence of impacts of the analysed project and to identify an assessment scenario.

The second phase involved the identification of causal chains and indicators. It began with an expert workshop to verify and summarise the analyses carried out by the project team and the evaluation methods they had planned. This was also accompanied by identifying potential effects for all thematic dimensions in the form of a systemic picture (i.e. an integrated one, linking the interrelationships of multiple spheres) and identifying potential indicators to illustrate sensitivity. Based on the findings of the meeting, the German research team then developed a visualisation of the results.

The third stage was the localisation of impacts and their mapping. This stage of the TIA also began with an expert workshop. The material for the participants to work with were the sensitivity and exposure maps prepared (based on previous findings). Stakeholders were tasked with assessing territorial impacts. As a result of their discussions and work with the maps, rough visualisations of the locations of the effects taking place, the directions of potential development, etc., were produced. Following the workshop, the research team translated the free-form, qualitative results of the discussions into precise *Geographic Information System (GIS*)-based impact maps capturing the three dimensions of impact: economy, environment and social dimension. The researchers then analysed the results of the workshop and the impact maps. Members of the project team developed the first conclusions on territorial impacts and formulated hypotheses for regional development.

In the fourth step, conclusions and recommendations were formulated. As in the previous steps, this time, the project team also presented the preliminary findings to the workshop participants, who not only gave their opinion on the impact analysis made and agreed on the hypothetical directions of territorial development resulting from the studied railway investment but worked together on the emerging recommendations. Notably, the proposals developed during the workshop were multi-dimensional. They addressed stakeholders from different levels of public administration, as well as actors from the private sphere (mainly transport service providers) and the social sphere (solving social problems resulting, for example, from transport marginalisation).

In the final fifth step, setting the results in a broader context was necessary. This was done through the preparation of a final report by the research team and the presentation of the results obtained, which also served as the beginning of a discussion on the possible practical implications of the study.

**Findings**

The project identifies a number of impacts, which are divided into six thematic groups: settlement development and spatial structure, society and demography, economic development, tourism, environment and governance.

*Settlement development and spatial structure*

It was concluded that as a result of the investment both on the German and Polish sides of the border, an increase in the settlement should be expected, as well as a decrease in the average age of residents in the area affected by the investment (influx of young families with children). In Germany, this will be seen mainly in the area from Berlin to Müncheberg, while in Poland, it will be seen primarily in the area around Kostrzyn nad Odrą, strengthening its position as a national and international transport hub. The increase in population will be accompanied by the development of associated sectors, e.g. construction (particularly in Germany) or the economy and tourism (a more pronounced effect in Poland).

*Social and societal effects*

It was noted that an increase in population (particularly in the pre-working age group) on both sides of the border

could be accompanied by maximising the use of the current care and education infrastructure and the need to expand it to meet future needs in this area. Population growth will also stimulate local socio-cultural activities, which will necessitate not only the development of infrastructural facilities but also the offer provided. Finally, due to improvements in the transport network and increased personal links between towns and rural areas (e.g. moves from towns to rural areas, shuttle traffic to work), the perceived urban-rural distance within the area of influence of the analysed development may decrease.

*Economic development*

The analyses carried out have shown that, as a result of the development of the railway infrastructure, first and foremost, the economic situation of companies already operating should stabilise and, to a lesser extent, the potential influx of new investments and the creation of related jobs. The transport of commuters as well as trade and shopping traffic, will also be facilitated. More substantial positive effects will be seen on the Polish side of the border, although they will also be observed in Germany.

*Tourism*

The realisation of investments in the development of the railway infrastructure will translate into the development of day tourism, mainly in less urbanised areas on both sides of the border. This will improve both cycling and walking tourism as well as water tourism. Due to the lack of developed accommodation infrastructure, no significant impact of the assessed investment on long-stay tourism is expected.

*Environmental effects*

The analyses have shown that increasing the use of rail transport relative to road one (for both passenger and freight journeys) will reduce carbon dioxide emissions and other nuisance pollutants. At the same time, however, this may be accompanied by increased noise. These effects will be felt mainly locally, near the planned investment. It was also pointed out that an increase in population in rural areas within the area of impact of the investment will require expansion of the road infrastructure and involve more intensive short-distance wheeled transport (e.g. commuting to school or work), which will have adverse environmental effects.

*Management*

The territorial impact assessment showed that the inter-institutional relations established and/or strengthened due to the implementation of the railway investment would be the basis for further cooperation and may also be a reference point for forming relations between other entities that will establish similar collaborations in the future. At the same time, it was noted that the analysed railway line entails direct and indirect costs for local stakeholders (mainly municipal governments - cf., e.g. costs of preparing and developing land for development, required additional transport infrastructure and local public transport.

### Conclusions

The main methodological conclusion is the positive verification that the developed 5-step analytical framework of the territorial impact assessment approach is a useful generalised concept that, with appropriate adaptations responding to the needs of the policies and territories analysed, is worth using for similar assessment processes.

Stakeholder engagement proved to be the strength of the approach but also an ongoing challenge. The length and intensity of the analytical process could have been burdensome for the invited workshop participants, especially if they attended the TIA due to professional commitments rather than a personal belief in the value of the process. An ambitious and mentally demanding task for the project team was to build the right atmosphere during the meetings: to create a sense of interest among all workshop participants and to strive for a balance of different perspectives (e.g. Polish and German, but also a variety of viewpoints from representatives of other sectors, etc.). In addition, the research team not only had to take care internally of an adequate representation of the different approaches but also to moderate the workshops appropriately so that the phenomenon of a free, multithreaded exchange of information occurred during the conducted meetings.

The availability and quality of cross-border data proved challenging for this approach. Cross-border data were not comparable at many levels. Collecting data from a low territorial level (below NUTS3) was difficult and often impossible. Dedicated models or estimates, data sets, etc., extended the analyses' scope but reduced their reliability. Sometimes, therefore, the analytical approach had to be tailored to the availability of data rather than the information needs of the project team.

Finally, in the context of the final products being developed, it will be necessary in the future to clearly define the target groups and adapt the results (their presentation, scope) to them. Comprehensive, multi-pronged analyses are of interest to a large audience but, at the same time, may not generate a sense of ownership for the implementation of the resulting recommendations.

## TIA pilot project in the Netherlands: a case study of South Limburg

### Introduction

In the Netherlands, the partner in the pilot action *Understanding how sector policies shape spatial (im)balancesis* is the Ministry of Interior and Relations of the Kingdom of the Netherlands. The country has a long tradition of integrating geographical knowledge into strategic spatial planning. Dutch territorial planning seeks to consider and reconcile different - sometimes competing - sectoral

agendas in spatial development.[27] The approach is characterised by starting with a mapping of the various land use claims, preferably cartographically. This situation analysis includes the spatial impact of sectoral policies, both those already in place (ex-post and ongoing) and those that are necessary or helpful (ex-ante) to facilitate a particular transformation. This process can be considered a TIA.

In the next step, Dutch strategic planning investigates whether optimal combinations of different land uses can be achieved. This is generally done interactively, with urban and landscape planners working with decision-makers, stakeholders and the general public in regional design workshops.[28] As land-use decisions often involve trade-offs in which there are no Pareto optimums, decisions are also inherently normative (i.e. specifying applicable land-use standards) and, therefore, political. To support prudent decision-making, Dutch planners (planners and researchers working together) often create various scenarios to illustrate the possible consequences of a particular policy direction. Although this is not TIA in its definitional sense, the procedure is related to the TIA approach and is based on TIA-like analyses.

A Dutch example from cross-border project evaluation concerns strategic planning in the southeastern part of the country, in the Limburg area. This undertaking is one of the so-called NOVEX areas in the Netherlands. Currently, the country is on the eve of a major transformation. Many tasks need to be carried out in a small area. This entails making choices and implementing smart connections and innovations. It also requires national supervision of spatial planning and aood space distribution. This is made possible by the Mooi Nederlands (Beautiful Netherlands) and NOVEX programmes. In the NOVEX venture, all governmental bodies cooperate in the spatial planning of the country. For this to be feasible, it must first be clear what requirements are placed on the territory and what needs to be taken into account spatially at the national and regional levels. The national objectives and interests are combined in a so-called “starter package”. This package forms the basis for creating a spatial puzzle in the individual provinces. Twelve provinces are working together with water authorities and municipalities to translate the national tasks and objectives into a spatial snapshot and integrate them into the individual provincial plans. This is an offshoot of the belief that only at the provincial level can one see clearly where the opportunities lie and where the development bottlenecks are.

Sixteen NOVEX areas have been designated in the Netherlands, where significant spatial changes require a separate development perspective. Each time, the national government and the region will jointly develop it, integrating central and local perspectives. The plans for the sixteen NOVEX areas will be part of the provincial spatial plans. It is then subject to examination as to whether all the separate plans together will lead to a sustainable vision for the country. An implementation programme will be developed for the NOVEX areas with a provincial investment programme specifying the tasks, those responsible for their implementation and a timetable. The project has taken concrete steps to create solid, attractive and realistic perspectives for the future.

### TIA Methodology

The project used the method of research through design. This methodology in spatial planning involves analysing available design solutions to solve spatial problems or challenges. It typically involves a cyclical process of observation, analysis and design, with each stage providing information for the next. The study by design can be used as an approach to territorial impact analysis. It involves assessing the potential impact of policies, programmes or projects on a specific geographical area, such as a region or city. The study by design potentially provides a useful framework for this type of analysis as it involves exploring different design solutions and testing their feasibility, effectiveness and sustainability.

The following process activities were carried out to apply research by design to territorial impact analysis.

In the first instance, six themes were selected to help structure existing policies with tasks, trends and ambitions. \. as the following topics were included: water and climate, nature and landscape, mobility, energy, economy and housing. These themes corresponded with areas identified in the National Strategy for Spatial Planning and the Environment (NOVI) and identified in the South Limburg NOVI area, among others. They also referred to the “layered approach” used in the Netherlands. The domain information for these thematic areas was collected during the desk research analyses and deepened during the thematic sessions.

In the next step, the collected information was compiled into draft fact sheets and placed in a selection matrix from which the so-called critical uncertainties were extracted. These denoted events that could potentially have a significant spatial impact but were also highly uncertain. These critical uncertainties formed the basis for extracting three perspectives on the future. During the design sessions, these perspectives were expanded and deepened. They became increasingly grounded and complex by carrying out various workshop tasks, such as “wild cards” and “stress tests”. In this way, three scenarios were developed that provided a plausible and balanced

[27] Nadin, V., Stead, D., Dabrowski, M., & Fernandez-Maldonado, A. M. (2021). Integrated, adaptive and participatory spatial planning: Trends across Europe. Regional Studies, 55(5), 791-803. https://doi.org/10.1080/00343404.2020.1817363.

[28] Vogelij, J. (2015). Effective Strategy Making; Co-designing Scenarios as a Tool for Strategic Planning, PhD Thesis TU Delft, Series A+BE Architecture and the Built Environment #07 2015. BK Books, TU Delft.

vision of the future and included a set of different advantages and disadvantages.

In line with the Dutch approach to spatial planning and spatial policy, it was decided to use the "layered approach" methodology as an organising principle both in the analytical phase within the South Limburg Panorama process and in designing future perspectives.[29] In line with this approach, three layers were identified, which bring with them a variety of planning challenges:

- Substrate: includes soil types and landscape types.
- Network layer: includes the road or electricity network.
- Use layer: includes patterns of urbanisation or agriculture.

The six main themes (the abovementioned issues analysed in three layers) were assigned to the layers, while policy tasks and ambitions were indicated for each layer. In addition to collecting policy tasks and ambitions (and trends), an important step taken in the factsheets was to translate them into spatial impacts and show the following spatial choices to be expected.

The starting point for this approach was the belief that, at the regional level, it may not always be clear what the spatial implications of all ambitions are (e.g. will they generate conflicts or perhaps create connections?). The factsheets were useful as they allowed the project team to concretise the relevant tasks, trends and ambitions and visualise them spatially by putting them on a map. The questions the researchers always asked themselves were:

- How urgent is this task?
- At what scale is this task relevant?

Through such analysis, it has become clear that many of the larger, more complex tasks are regional in nature. Still, until recently, there has been no political cooperation to address these issues at this level.

#### Conclusions

Compared to the other territorial impact assessment approaches described in this chapter, the Dutch case is characterised by an above-average stakeholder collaboration. Whereas in the previously described TIA implementations, the stakeholders were mainly knowledge providers; in this case, they will also be ultimately responsible for implementing the findings and recommendations of the process. In this context, the presence of an independent expert in the TIA methodology is crucial in order to oversee that subsequent tasks are performed correctly and impartially.

It is also worth noting that in the previously analysed TIA approaches, the aggregated result of the indications/assessments of individual participants, who may have disagreed with each other and the TIA methodology itself did not force them to reach an agreement, constitute the outcome of the workshop. In the Dutch approach, on the other hand, a compromise solution acceptable to all participants in the process has to be reached. In this case, even one key decision-maker could block the implementation of the resulting TIA measures. This means that the leaders of the assessment processes need to have not only analytical competence (e.g. working with GIS) but also negotiation skills. Such a combination is scarce and places heavy demands on the project team implementing the territorial impact assessment of public policies

## 5.2. Other examples of TIA applications in the pilot action

### TIA pilot project in Poland: the Mutually Needed programme

#### Introduction

In Poland, the partner in the pilot action *Understanding how sector policies shape spatial (im)balances: Region-focused Territorial Impact Assessment* (and overall project leader) was the Ministry of Funds and Regional Policy. For the analytical work carried out, it cooperated with a consortium of entities: CASE - Centre for Social and Economic Research and Ecorys Polska Sp. z o. o. The project assumed that the (SPA)TIA approach developed in the course of the project would be implemented several times, which was to allow, on the one hand, genuine support for the implementation of selected public policy (providing knowledge for decision-makers) and, on the other hand, to verify the assumptions of the developed approach and improve it.

The conceptualisation, implementation and summary analysis of the (SPA)TIA for the Mutually Needy programme, the development of which is coordinated by the Chancellery of the Prime Minister (KPRM), was carried out between January and May 2023. The programme assumptions had not yet been precisely defined at the time of the study. It can be reliably generalised that the task is to mitigate the effects of the social and housing crisis resulting from the influx into Poland of Ukrainian citizens directly or indirectly affected by the hostilities resulting from the aggression of the Russian Federation. In parallel, the programme is intended to address the needs of Polish citizens, in particular persons and families threatened by social exclusion or in other difficult life situations. The task consists primarily of activities aimed at creating an effective system of medium and long-term assistance and social inclusion for persons and families at risk of social

[29] Van Schaick, J. and Klaasen, I. (2011) "The Dutch Layers Approach to Spatial Planning and Design: A Fruitful Planning Tool or a Temporary Phenomenon?", *European Planning Studies*, 19(10), pp. 1775-1796. Available at: https://doi.org/10.1080/09654313.2011.614387.

exclusion, including for Ukrainian citizens residing in Poland (inter alia, in terms of meeting their needs in the area of housing, labour market, education and other social services).

### TIA methodology

The SPA(TIA) study workshops were held on 28 February, 16 March and 31 March 2023. Participants in the workshops included representatives of the KPRM (the Chancellery of the Prime Minister of Poland - the institution coordinating the preparation of the Mutually Needed Programme), experts cooperating with the KPRM in its development (coming from both the public administration and social sectors), representatives of the MFiPR and the team of analysts implementing the TIA.

The first workshop, in addition to presenting the objectives of the pilot action and the SPA(TIA) method [cf. Chapter 4] was a discussion of the Mutually Needed programme aimed at a better, fuller understanding by the research team to prepare the analytical tools used at the next meeting more accurately.

The first workshop task during the second meeting was to reconstruct the logic of the Mutually Needy programme. According to a hypothesis based on the reconstruction of the available information material, it was maintained that its objective is *Social integration of families/vulnerable people.* Short-term specific objective No. 1 was modified. It originally read *Increased accessibility of housing, work and education services*, but workshop participants wanted to emphasise that specific public goods were in deficit. Their suggestions resulted in a new wording for short-term specific objective No. 1: *Increase accessibility to housing, work and education. Short-term specific objective No.* 2 was accepted by the meeting participants in the wording reconstructed by the research team, i.e. *Increase the level of professional and social activity*. The last proposal in the scope of short-term specific objectives - in its original wording, *Intensification of partnership cooperation at the local level* - was fundamentally reformulated. The final wording of this objective is: *Intensify the cooperation of JST and other private, public and social actors at the local level*. Such a provision was intended, on the one hand, to show the indispensability of cooperation between the representatives of the three sectors and, on the other hand, to emphasise that the importance of territorial self-government units in this cooperation is critical; without their acceptance, it will be impossible to implement the programme in a given commune. Finally, the long-term specific objective was also revised. The original wording (*Supporting the economic development of smaller towns and marginalised areas*) has been replaced by the wording: *Increase potential and promote development, especially of small and medium-sized towns and marginalised areas (OSI)*. This was due to the observation that the question of demarcation regarding access and/or possible bonus for smaller centres is still under consideration.

Exposure issues were discussed in the next step. It was noted that an unusual feature of the Mutually Needed programme (at this stage) was that its intended scale was not known. It was assumed that there were three elements of exposure: the type of municipality (T) eligible to join the programme, the population of the municipality eligible to join the programme (P) and the number of municipalities (N) eligible to join the programme. As the most likely, "realistic" scale of the Mutually Needed programme, it was considered to be addressed to:

- T (type of municipality): urban or urban-rural;
- P (population of the municipality): P<120 000 with p=1 and 120 000<P<200 000 with p=0.5;
- N = 100 (maximum 5 000 premises).

At the same time, selection into the programme was considered to result from a "ranking" of sensitivities - with the programme's impact assumed to be half as bad in cities with more than 120,000 but less than 200,000 inhabitants.

Next, the vulnerability was analysed, i.e. the characteristics of a territory describing its susceptibility and response to policy impacts due to its territorially specific characteristics. To simplify the analytical process, the research team pre-developed a list of indicators that corresponded with the Mutually Needy programme under analysis and, in the opinion of the research and analysis team, seemed to measure the selected spheres of its impact. The participants' task was to assess whether a given indicator was relevant to a given objective and, if so, to determine the direction of sensitivity for it.

Of the 12 indicators pre-selected by the research team, all were identified as relevant for at least 2 of the 4 analysed objectives. By far, the more common assumption (by voting among the workshop participants) was that the impact direction was "Fertile soil" – "Low base" was only decided upon for 6 votes on the impact direction assessment. Translating this into the language of specific examples, it was considered that:

- Municipalities with good school/pre-school/nursery provision and high vacancy rates will attract vulnerable people,
- Refugees (migrants) are more likely to locate themselves where there are already others in a similar position,
- Transport-accessible municipalities will attract vulnerable people,
- More affluent municipalities will attract disadvantaged people and be more willing to join the programme,
- Municipalities with a high level of civil society activity will be more likely to apply to the programme,
- Municipalities with high unemployment and high levels of social benefits paid will be less likely to join

the programme and weaker in attracting vulnerable people.

The selection into the programme of the first 100 municipalities based on the sensitivity ranking favours the better-off municipalities. This means that, in practice, all cities with a population between 120,000 and 200,000 are exposed. As a whole, the results of the discussion and subsequent voting are presented in the table below.

**Table 6. Evaluation of sensitivity directions for selected indicators**

| Indicator | Objective 1 | Objective 2 | Objective 3 | Objective 4 |
|---|---|---|---|---|
| Number of registered refugees as a percentage of the population | FG | FG | FG | FG |
| Number of private and communal vacant properties per 10,000 population | FG | | | FG |
| Number of public housing units per 1,000 inhabitants | FG | | | FG |
| Percentage of children cared for in crèches | FG | FG | | FG |
| Children in preschool institutions per 1,000 children | FG | FG | | FG |
| School ward size (number of children in an average school unit) | FG | FG | | FG |
| Share of unemployed in the working-age population | NB | NB | | |
| Volume of own revenue of the municipality per population | FG | FG | FG | FG |
| Transport accessibility of the municipality (travel time to a regional city) | FG | FG | FG | |
| Social assistance benefits per 1,000 inhabitants | | NB | NB | |
| Turnout in recent local elections as an indicator of social activism | FG | FG | FG | FG |
| Migration balance | NB | | FG | NB |

Source: own compilation based on voting results among workshop participants.

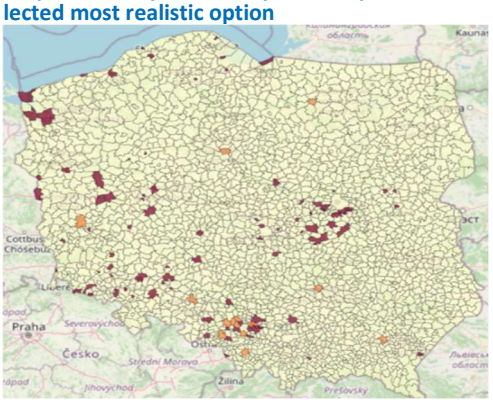
Importantly, a key part of the discussion - albeit at times somewhat side-stepping the main objective of the (SPA)TIA - was the debate on the indicators themselves: their relevance, their usefulness and the possibility of replacing them with other metrics that are not publicly available, which government institutions can source.

Another interactive task of the (SPA)TIA procedure was a discussion of the impact of the policy across the boundaries of the exposed municipalities. It was acknowledged that diffusion takes place and is positive for all targets. However, the nature of the diffusion was found to be objective-dependent. For objectives 1 and 2, it was noted that diffusion is less the greater the distance from the municipality covered by the Mutually Needed programme (with diffusion being positive if the distance is less than 50 kilometres and then ceases). For Objectives 3 and 4, the existence of diffusion was made dependent on the neighbourhood of the municipality - with the diffusion of 1$^{st}$-degree neighbours (closest neighbours) being twice as large as 2$^{nd}$-degree neighbours (i.e. those separated by one municipality from the municipality exposed to the programme).

### Findings

Next are the maps created based on the results of the discussions and votes from the (SPA)TIA workshop.

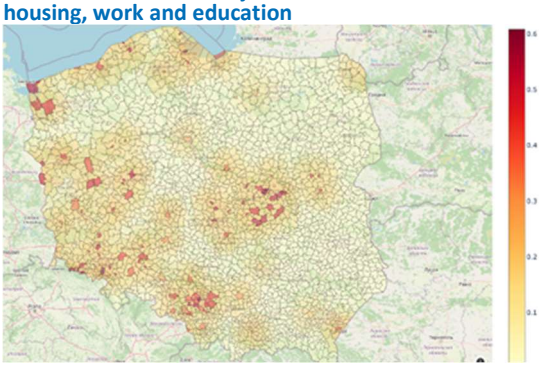
**Map 1. Municipalities subject to exposure in the selected most realistic option**




Source: own study.

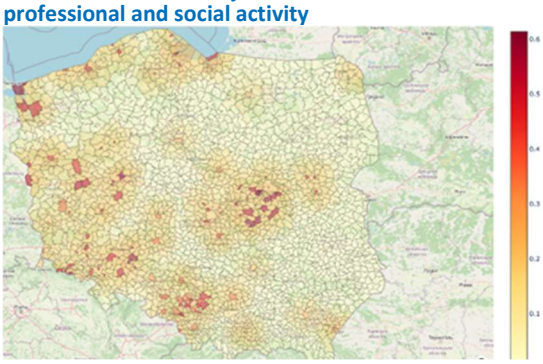
The following maps in the report show the results of the (SPA)TIA analysis. The light yellow indicates no impact of the Mutually Needy programme on achieving a given objective; the maroon suggests a significant positive impact of the policy on a given objective. The maximum positive direct impact of the Mutually Needy programme on achieving a given objective in a particular municipality is 1. Values above 1 result from additional diffusion from municipalities also affected by this programme. In practice, none of the municipalities reached an indicator value equal to 1. This would require all sensitivity indicators for a given municipality to be at their maximum level, which did not happen in this implementation of the (SPA)TIA

**Map 2. Impact of the Mutually Needy programme on the achievement of Objective 1: Increase access to housing, work and education**



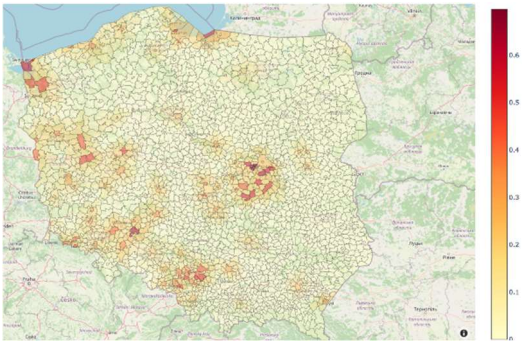
Source: own study.

**Map 3. Impact of the Mutually Needy programme on the achievement of Objective 2: Increase the level of professional and social activity**



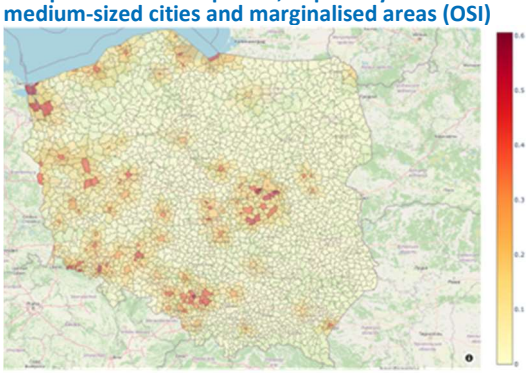
Source: own study.

**Map 4. Impact of the Mutually Needed programme on the achievement of Objective 3: Intensification of cooperation between TSU and other private, public and social actors at the local level**



Source: own study.

**Map 5. Impact of the Mutually Needed programme on the achievement of Objective 4: Increase capacity and promote development, especially of small and medium-sized cities and marginalised areas (OSI)**



Source: own study.

Analysis of the maps shows that the likely impact of the policy on a given municipality is mainly dependent on its exposure, which is derived from the sensitivity ranking. In the so-called "realistic option" - considered during the workshop as the most likely to "materialise" - all the municipalities participating in the Mutually Needed programme have the highest sensitivity in the country. Although the sensitivity indicators for the individual targets are heterogeneous, they are highly correlated. This means that the impact always turns out to be spatially similar. What also draws attention is the distribution of diffusion. In the case of large agglomerations, the potential positive diffusion is mainly in municipalities that need it less than those around smaller, self-contained urban centres.

To sum up, in the variant described as realistic, the so-called "St. Matthew effect" ("the better one takes all") is possible. This means municipalities with an aid base will receive additional support, while the Mutually Needed programme may leave out municipalities with lower potential and resources.

**Conclusions**

- To avoid the St. Matthew effect described above (which could exacerbate divergence between municipalities), the project selection criteria in the Mutually Needy programme should give preference to

municipalities with a relatively lower level of socio-economic development (e.g. low average disposable income, high unemployment, low labour force participation).

- The effectiveness and relevance of support could sometimes be considered the critical criterion in decision-making, reducing the importance of its effectiveness as a decision criterion. Even relatively weaker effects in municipalities outside N=100 (i.e. in the programme's field of exposure) may be objectively more necessary from the point of view of pursuing social cohesion or meeting the population's basic needs. Consideration should be given to whether this issue should also be reflected in the access/selection criteria.
- The criteria for selecting municipalities for the programme need to be clarified. The development policy objectives formulated, among other things, in the Responsible Development Strategy and the National Strategy for Regional Development 2030 (NSRD) will be helpful in this respect. It should be noted that from the point of view of the programme objectives, it is possible to consider referring to the Areas of Strategic Intervention (OSI), i.e. areas identified in the NSSR as requiring interventions co-financed from public funds:

  - municipalities at risk of permanent marginalisation (755 municipalities),
  - medium-sized towns losing socio-economic functions (139 towns),
  - Silesia (Śląskie Voivodship),
  - Eastern Poland macro-region (Podkarpackie, Podlaskie, Lubelskie, Świętokrzyskie and Warmińsko-Mazurskie voivodeships by the end of 2020).

- The updated OSI lists can be found here: https://www.gov.pl/web/fundusze-regiony/krajowa-strategia-rozwoju-regionalnego
- It is indispensable to activate municipalities and promote the Mutually Needed programme in municipalities that are less active and more in need.
- An alternative interpretation of the results might suggest that there is nothing wrong with benefiting the municipalities with the highest potential in the initial period of programme implementation. With their high probability of success, they may become a kind of advertisement for the support under study and ultimately increase interest among other stakeholders.
- The experience of the Advisory Support Centre project is worth reading: https://www.gov.pl/web/fundusze-regiony/centrum-wsparcia-doradczego in the context of strengthening the capacity of municipalities and associations of municipalities to create development strategies.
- The (SPA)TIA can help revise the assumptions of the Mutually Needed programme (as well as any other public policy) because of its easy visualisation and the possibility to explore variant programme assumptions.
- Compared to previous pilot implementations of the (SPA)TIA approach, the implementation in the scope of the Mutually Needed programme emphasised even more strongly the role of the involvement of the "owner" of the evaluated intervention in the research process. The information provided by the KPRM and other stakeholders during the first workshop proved very important for the framework definition of the intervention logic or the pre-selection of indicators for measuring its objectives.
- The selection of indicators and their number are important for the course and results of the method. Their selection resulted from the indicators' availability, relevance, and the team's preferences in preselecting the indicator catalogue. This is worth considering when interpreting the results of the (SPA)TIA.
- It would be valuable to complement the assessment perspectives with the positions of regional and local level representatives.
- In the case of indicators, it can be a challenge for evaluation to interpret the direction of their impact in two ways (e.g. high unemployment is undesirable, but a high employment rate is positive). In order to simplify the course of the (SPA)TIA workshop, it is worth considering adapting the indicators in such a way that their interpretation is standardised and requires less technical thought.

## TIA pilot project in the Netherlands: a case study of the Europeanisation of spatial planning in Netherlands

### Introduction

EU policies have often proved to be a surprise to Dutch planners. The lack of spatial planning at the European level means that the generated effects of public policies originate in different policy areas, which are often not actively monitored. In addition, as the impact of public policies is usually mediated through institutional and territorial filters, it has previously passed through many policy levels, and the European element becomes little or even completely invisible by the time it reaches regional spatial

planners.[30] Several initiatives similar to TIA have been carried out in the Netherlands to prevent unexpected side effects of EU spatial planning policies.

### TIA Methodology

In mid-2000, the then Ministry of Housing, Spatial Planning and the Environment created a methodology for examining EC policy proposals to determine their potential effects. A checklist was created in many ways similar to the EATIA approach. In addition, the predecessor of the Dutch Environmental Assessment Agency was tasked with drawing up an "early warning" system, which can be seen as a tool to help decide if and when an environmental impact assessment is necessary and what form it should take. This took the form of a document containing a methodology for checking the need for an assessment and guidelines for TIA, which are aligned with the European legislative process. In broad terms, they boil down to a four-step procedure consisting of 1) analysis of the situation, 2) analysis of the problem and context, 3) identification of alternative policy options, and 4) estimation of the impact of the policy under examination on the Netherlands. This detailed approach to a comprehensive assessment of EC proposals has become standard operating procedure in the Netherlands, although it goes beyond the domain of spatial planning.

One of the first implementations of this approach was the ex-ante evaluation of the Green Paper on territorial cohesion for the Netherlands. In line with the TIA guidelines, this required a very multifaceted approach, as there was no consensus on the definition and scope of territorial cohesion and the exact mechanisms and instruments of a possible territorial cohesion policy. Therefore, the report adopted a scenario-based approach, analysing what would happen if territorial cohesion was stimulated according to the five interpretations competing for wide acceptance at the time.[31] Then, GIS analyses, statistical data and interviews with experts considered whether the analysed possible policy solutions would have impacted the Netherlands and whether this could be regarded as positive or negative.

The Dutch Environmental Assessment Agency conducted a study on this issue to understand better how EU policy influences land use planning.[32] This impact was considered to have various sources at the EU level, translating into land use decisions at the local level. The resulting impact was analysed through the lens of planning governance, the scope of planning and the planning process itself. In terms of the impact of EU policies on land use planning governance, the study found that this relates to a complex web of continuous uptake (national implementation of EU solutions) as well as transmission (putting the points developed at the national level on the European agenda, lobbying). EU policies are not static, which can affect governance relationships as different stakeholders are involved. Moreover, each EU policy has its own implementation system, which affects who is involved and has a stake in it. For example, competition policy in the EU is mainly top-down and direct, while regional policy is much more diffuse and has unclear boundaries. Given the number of overlapping factors and stakeholders interacting with the planning processes, Dutch planners do not have the physical capacity to intellectually understand the governance processes within all policies that ultimately impact territorial development issues.

An important observation is that national policies can significantly impact how EU policies will interact with spatial planning (i.e. there is a feedback loop). For example, at the time of the study in question, national planning in the Netherlands was under-regulated and decentralised, resulting in tensions between different levels of governance regarding, for example, positions in relation to structural funds, as well as how EU policies should be implemented and who should be held accountable for possible non-compliance.

Any planner who has considered building a housing development on or near a Natura 2000 site or used EU support to build a business park has experienced that EU policy can influence the content of spatial planning. To explore the various ways this influence can occur, the researchers have defined a number of "impact types" and attempted, where possible, to represent this influence in cartographic form.[33]

Six types of impact were distinguished, which can be represented cartographically:

1. Area-specific designation (e.g. Seveso, Natura 2000, LFAs): the policy involves designating areas with spatial restrictions or benefits. These zones are included as a map layer.

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[30] Fleurke, F., & Willemse, R. (2007). Effects of the European Union on Sub-National Decision-Making: Enhancement or Constriction? Journal of European Integration, 29(1), 69-88. https://doi.org/10.1080/07036330601144466; van Ravesteyn, N., & Evers, D. (2004). Unseen Europe A survey of EU politics and its impact on spatial development in the Netherlands. Netherlands Institute for Spatial Research.

[31] Evers, D., Tennekes, J., Borsboom, J., Heiligenberg, H. van den, & Thissen, M. (2009). A Territorial Impact Assessment of Territorial Cohesion for the Netherlands, Netherlands Environmental Assessment Agency, The Hague. Netherlands Environmental Assessment Agency.

[32] Evers, D., & Tennekes, J. (2016a). The Europeanisation of spatial planning in the Netherlands. Netherlands Environmental Assessment Agency.

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2. Designation based on the need to implement interventions (e.g. due to air/water quality, nitrates present): the policy prescribes actions to be taken if certain standards are unmet. In this case, the areas not meeting the quality requirements (e.g. air) are shown as a layer on the map (even though the general rule applies everywhere, the layer visualises only the areas requiring an adequate response). This solution illustrates the belief that interventions should occur in (or near) areas where the required criterion is unmet.
3. Area-based investments (e.g. Regional Policy, Life+, TEN-T): areas that receive EU subsidies for a specific project in a particular location (funding for larger-scale programmes is excluded). The perimeter of the mapping mark indicates the level of funding.
4. Sectoral investments (e.g. CAP pillar 1, Horizon 2020): this applies to aterritorially dispersed grants (very general eligibility criteria for territorial issues). The volume or intensity of fund implementation is included as a layer on the map.
5. General regulations (e.g. public procurement, state aid): projects covered or affected by EU regulations are marked with an icon on the map.
6. Territorial cooperation (e.g. Interreg, Floods Directive): areas where the EU actively supports or mandates cooperation. Boundary lines on the map indicate these.

The map that emerges from overlaying all the above types of impact can be used to identify potential sources of synergies and conflicts between different EU policies. The study showed a general divide between urban and rural areas regarding the policies affecting them. Several instances of synergies but also conflicts between policies were also identified. For example, a potential conflict of CAP Pillar 1 subsidies (often used for intensive agriculture) was perceived, which were granted close to sensitive Natura 2000 areas and waters that did not meet European quality standards. Similarly, although at a greater distance, the conflict of industrial activities partly initiated and supported by the EU, which could affect protected habitats, was perceived.

In addition, the study in question identified three crucial types of impact that cannot be presented cartographically.

- Procedural rules (e.g. environmental impact assessment): many EU policies affect spatial planning, requiring evidence or studies. This can significantly impact projects but is very difficult to visualise on a map, especially if the policy affects all plans and projects.
- Projects to achieve EU objectives (e.g. renewable energy): Various EU policies require measures, including spatial measures, to achieve an overall aim. For example, to realise the EU's aspirations for developing renewable energy, the choice of measures and their location (e.g. wind farms or solar panels - abstracting from their spatial relevance) is entirely up to the Member State. For this reason, they are not included in the map.
- Governance relations (regional policy): many policies influence spatial planning by creating new governance relationships. For example, Interreg cross-border cooperation can affect planning at a strategic and conceptual level. This is impossible to map with GIS data.

Finally, EU policies can influence planning processes and procedures. When developing a strategy for a specific area, there are many possible scopes of interaction with EU policies and possible ways of taking them into account. The first is to ensure full compliance. This has been called the "Europroofing" of spatial plans, and many municipalities in the Netherlands have required this before issuing planning permission, fearing potential litigation. The consequence was sometimes to inhibit creativity in the search for optimal solutions. Renegotiating policies or re-transposing them would involve such high administrative costs that it was sometimes decided to keep the EU policies in place (despite their perceived limitations).

To explore other ways in which EU policies can be reinterpreted more broadly, the study distinguishes between the impact that arises from the content of a policy (e.g. enshrined in law) and the impact that occurs when it is activated in practice (e.g. when a plan is challenged in court). Concerning the former, the following four options are available[34] :

1. Exempting certain cases: e.g. setting thresholds that exempt small projects from a particular standard or policy requirement. Exemptions can be linked to specific exemption conditions, such as rules of conduct.
2. Procedural decoupling: the standards still apply, but instead of being applied during the planning procedure, they are activated at another time within a different procedure.
3. Decoupling from location: e.g. changing a policy that aims to control impacts (which are strictly territorial) to one that targets the source. The aim here will not be to strictly meet specific standards in a particular area but to address the origins of the problem, which may be quite different from the planned project, which is not affected by this source of the problem.

[34] Evers, D., & Tennekes, J. (2016a). The Europeanisation of spatial planning in the Netherlands. Netherlands Environmental Assessment Agency.

4. Disengagement: preventing parties from involving EU policies in decision-making, for example, by limiting the ability to appeal planning decisions.

The second type of strategy allows a more flexible interpretation of EU policy requirements in planning decisions. For example:

- Making objectives negotiable with other interests: Allowing EU policy objectives to be balanced against other factors. An example would be to allow a project to proceed even if an applicable environmental standard will be exceeded as a result of that investment because important material considerations make it unreasonable to expect the standard to be met - for example, because the best available techniques are already in place and alternatives would be prohibitively expensive.
- Facilitating compensation for non-compliance.
- Reinterpretation of the standard to allow more flexible application.
- Offsetting impacts in an area: compensating for adverse impacts (e.g. on the environment of one project, with environmental benefits of another project, as long as the net result is an overall improvement in environmental conditions in the area.
- Programme approach: entails an extended approach to impact compensation. The programme includes not so much a plan for one specific project but for some projects with general measures such as risk prevention. The package aims to achieve an EU policy objective (e.g. compliance with an environmental standard) within a specific timeframe. Still, each project's key issue is how well it fits into the overall package.

## Conclusions

The study provided a framework for understanding the impact of EU policies, analysing the implications for governance and spatial planning, and giving concrete examples of how this impact can be actively managed in planning practice. This can therefore be considered a specific implementation of TIA but difficult to replicate due to the expertise, data and resources required. Nevertheless, some lessons that are still relevant can be identified, not only for the Netherlands but for all EU Member States. Firstly, territorial and aterritorial EU policies can overlap in a particular location, leading to tensions between thematic policy areas and spatial development ambitions. Secondly, managing these policies, like managing spatial planning in a Member State, is important to determine the possible / occurring impacts. Finally, impacts can be actively managed, although all strategies are unreliable and involve costs and risks.

# 6. Conclusions and recommendations

The needs related to assessing the territorial impact of policies are so diverse that it is impossible to develop a universal method for such analyses. In this manual, attention was drawn to the time horizon of TIA, the complex nature and scale of impact of the policies being assessed, the availability of data, and stakeholder characteristics. An awareness of this diversity, together with knowledge on available TIA methods, allows for a case-by-case selection of the optimal method.

A review of existing TIA methods, together with experiences from their application to date and the workshops conducted within the framework of the pilot action *Understanding how sector policies shape spatial (im)balances: region-focused Territorial Impact Assessment*, led to several conclusions and recommendations. For clarity, we divided them into general conclusions, recommendations for policy owners willing to conduct TIA, and recommendations specific to conducting TIA in the cross-border context.

General conclusions:

- Although TIA originated from European policies, the inclusion of territorial impact assessments into the design process should be strongly considered for most public interventions at the national, regional, and even local levels. One of the advantages of this procedure is that it allows for a broader, cross-sectoral view of the projected actions and their impacts, taking into account this territorial aspect. Looking at policy through the lens of its impact on the territory facilitates the assessment of its compatibility with spatial planning in said territory.
- The experience gathered throughout the pilot programs has shown that TIA and its implementation add considerable value at different administrative levels. At the transnational level, participants of cross-border TIA exercises have benefited not only from the analysis of the impact per se but also from increased awareness of the cross-border impact of national policies. At the national level, the TIA pilots have contributed to improved skills and understanding of the territorial dimension of national-level policies. At this level, TIA also facilitates much-needed intersectoral dialogue and local and regional consultations. At the local and regional level, the participants of the pilot action gained insight not only into the direct effects of policy but also into the cross-regional and cross-border diffusion of policy effects. The TIA procedure can promote a participatory approach to public policy design by involving experts and stakeholders.
- This manual presents a modified approach to the ex-ante territorial impact assessment based on analysing existing tools (ESPON, TARGET_TIA). SPA(TIA) is a mixed-method procedure, including both quantitative analyses and participatory components. It allows stakeholders to quantify a given policy's predicted territorial impact and visualise it using cartograms. SPA(TIA) emphasises a better understanding of the diffusion of policy outcomes from the territory covered by the intervention to other territories, a phenomenon which may occur within one country or penetrate the administrative borders between states. The cross-border nature of many contemporary policies further justifies the use of this approach.
- The SPA(TIA) procedure consists of seven steps: (1) Verification of the need for a TIA, (2) Reconstruction of the intervention objectives and definition of the level of territorial aggregation, (3) Assessment of the planned exposure, (4) Determination of territorial sensitivity, (5) Estimation of the direct effects of the intervention, (6) Delimitation of the spatial diffusion effect, (7) Calculation and interpretation of the final results. The detailed description of the SPA(TIA) procedure provided in this manual enables a direct application of this method without further training.

Recommendations for policy owners willing to conduct TIA:

- The use of TIA should not be restricted to interventions which directly address territorial disparities nor to those implemented within the broadly defined cohesion policy. In reality, most public interventions may have a territorially diversified impact. Even seemingly aterritorial initiatives can benefit from conducting TIA, as they frequently depend on resources that are unevenly distributed, and their effects may be felt not only in locations where the intervention takes place but also outside this intended territorial range.
- The engagement of local stakeholders is essential but faces several shortcomings. Regional and local actors possess deep knowledge of their territory. Still, on the other hand, they are often not fully aware of the details of the assessed programme, grant scheme, etc. In particular, they may be unable to fully uncover the analysed policy's causal chain. Workshop-based approaches should, ideally, be based on at least two workshops, one with local stakeholders and one with experts in a given domain.
- The key stakeholder for TIA is the owner of the policy - the person or group of people responsible for its adoption, implementation, and eventual impact. The policy owner should appoint a team responsible for carrying out the TIA procedure, which should cooperate with him on an ongoing basis. This team can be of a centralised nature, located, for instance, in the ministry responsible for regional development, in particular in the case of national-level policies. Suppose TIA is performed by the regional and local

authorities, which do not normally have the capacity to maintain a specialised team. In that case, some outsourcing of scientific support can be considered to support the in-house analysts. The TIA should be a joint product of the team and the ministry owning the policy. As part of the process, the TIA team provides the knowledge and experience needed for its implementation, and the relevant ministry provides the necessary documents and data used in the TIA procedure.

- When carrying out an ex-ante TIA aimed at better designing the intervention, it is not recommended to outsource the entirety of the territorial impact assessment. External expertise is an essential and necessary element of TIA but should only serve a supplementary role to the activities of the leadership team.
- In the case of ex-post analyses, the involvement of external experts can be more significant, as studies of this kind are often based on statistical methods requiring specialised knowledge and software. Gathering such resources is, of course, also possible within the central government. Still, many entities specialising in research and analysis would be able to perform any statistical analysis adjusted to the requirements of a given policy.
- Performing the TIA necessity check should be an obligatory step when designing public interventions. However, it should also be preceded by a precise determination of the scope (definition) of the intervention. It must also be noted that many policy initiatives are very complex and involve multiple parallel activities of a different nature addressed to various agents. Preparing for a TIA requires that such actions be treated separately, as they are de facto separate interventions within a single policy framework.
- When the need for a TIA is confirmed, the choice of the appropriate method depends, on the one hand, on the degree of territorialisation of the planned intervention and, on the other hand, on the available time, financial resources and data. It is important to note that the existing methods vary considerably in terms of time and resource consumption, the range of analyses available, and the level of territorial aggregation on which the study is conducted. Many methods also have specific features that increase their usefulness for particular interventions. The manual provides guidelines for selecting one that best meets the needs.
- Concerning ex-ante and ongoing TIAs, participatory tools are an essential element of most methods, allowing for the direct participation of different stakeholders in the evaluation procedure. Regardless of its role in a TIA, participation has a critical legitimising and integrating function concerning a given intervention. It is, therefore, crucial that it be prioritised and not merely complementary to quantitative research.
- During the pilot actions, their participants reported data availability problems, particularly at the local level. This concerns the availability of both socioeconomic indicators and administrative data. Therefore, ensuring the availability of crucial statistical indicators at different administrative levels is essential to successfully and efficiently perform a detailed TIA.
- Participants of the pilot actions also reported some reluctance among sectoral ministries to discuss the territorial dimension of their policies and use territorial impact assessment to identify this dimension of sectoral policies. This is mainly because the TIA process is perceived as another unnecessary effort on top of their existing reporting and evaluation obligations. However, the pilot experience has shown that it can provide important insights to policy planners when TIA is implemented relatively early in the policy design stage. Therefore, increasing awareness and improving political support for TIA is vital for successful territorial impact assessment implementation.

Recommendations specific to conducting TIA in a cross-border context:

- Given the organisational complexity of a cross-border TIA, applying a formal, quantitative analysis method may prove too demanding. A qualitative, user-friendly, and comprehensive approach based on ESPON EATIA can also be employed in such cases. To a great degree, this approach is participatory, involving a 4-step assessment procedure, which includes three workshops with stakeholders. Using this approach, the impact is always evaluated holistically, covering impacts in the fields of society, economy, environment and space, and territorial governance.
- Applying TIA to cross-border policies or initiatives often demands a more tailored and flexible approach than standard applications. While ideally all stakeholders would participate in joint workshops, this is not always feasible. Mobilising actors on both sides of the border remains essential, yet practical constraints may hinder fully integrated processes. In such cases, the only workable—though not necessarily optimal—solution may be to carry out coordinated yet separate TIA procedures on each side of the border, with the results being merged in the final stage of the analysis.
- An additional argument in favour of such a split implementation of cross-border TIA is that mechanisms of exposure, the sensitivity of territorial units to the policy, and the diffusion of the policy outcomes, may all work differently depending on the

administrative context. Consequently, a joint analysis including participatory elements (workshops, meetings) would consume more time and be more demanding for the participants than the split approach. Conducting separate assessments of the territorial impact and then merging the results seems to be a more practical solution in those cases.

- Because cross-border interventions are simultaneously implemented in asymmetric cultural and administrative contexts, recommendations resulting from cross-border TIA need to be formulated separately for stakeholders on both sides of the border. Naturally, some of the conclusions will be common for the whole area. Still, it is important to remember the differences in administrative competencies and tools available in both countries.
- Nonetheless, within the framework of a functional approach to the development of cross-border regions and their integration, the possibility of conducting a TIA for the entire area in a single process will consistently constitute added value.

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