

Executive summary of the feasibility study on a permanent Observatory for cross-border territories

The following executive summary presents the feasibility study on a permanent structure aimed at observing cross-border territories. It is intended as a companion piece to the full report of the study carried out by the UMS RIATE and GIS CIST in 2013 and 2014. Emphasizing the methodological dimension to achieve the implementation of such an observatory, the study highlights also the necessary steps to create and set up a cross-border database. The study raises also issues related to the harmonization process of geographic statistical information as well as cartographical information. To implement an observatory on cross-border territories, the study proposes three different scenarios, varying according to the expectations of users, to the complexity of the query interface and to the model of governance. The aim of this foresight exercise is to identify major outlines and show that the choice of a more or less sophisticated scenario has a direct influence on all steps of the setting up of the database, from the collection to the outreach of the data.

At national level as at cross-border level, monitoring territories is based on the collection of facts and figures that will serve as a basis to analyze territories and support the implementation of efficient public policies. Authorities in several cross-border areas are already collecting data and running out regular data collection phases to ensure a systematic monitoring. However comparative studies on cross-border territories remain complicated to carry on, as data is not enough shared and harmonized. It is in this context that France and more specifically the Commissariat général à l'égalité des territoires (CGET and ex DATAR) launched an international dialogue to promote a common approach to monitor cross-border territories. This study is concentrating on French regions but its approach aims at becoming common to all European borders.

Governance and cooperation issues for taking the monitoring forward are being discussed since 2013 between France and its neighboring partners both at strategic and technical levels. To inform and feed the discussion within both the technical group and the strategic committee, the RIATE (*Réseau interdisciplinaire pour l'aménagement et la cohésion des territoires de l'Europe et de ses voisinages*) on behalf of the CGET is tasked to draw an estimate enabling all partner States to have a clear background and details on the setting up of a cross-border database. The RIATE with its experience in the ESPON M4D project and collaboration with the GIS-CIST on the axis of research 'information on local levels' is able to foresee several international

cooperation scenarios providing information on the setting up and implementation of a cross-border database, the risks and costs, financial and human terms. Building forecast scenarios implies having a clear vision of good practices underlying the construction of a harmonized permanent and lasting database. This is why, without being exhaustive, this study aims at providing an overview of the main methodological issues tackled in the fields of cartography, statistics, geomatics as well as spatial analysis.

This study follows in the footsteps of the works of the Mission Opérationnelle Transfrontalière (MOT) and the Fédération Nationale des Agences d'urbanisme (FNAU), and stands for the idea that cross-border observation, both statistic and qualitative, is not just an extension of national databases. Indeed, the architecture of a cross-border database is necessarily complex because it shall reflect the diversity of scales, definitions and methods used in each side of the border. Furthermore, this study should be read in continuation of the two previous studies carried out by the RIATE on behalf of the DATAR on harmonization of cross-border analysis. The expertise of the RIATE acquired from the coordination of the ESPON M4D project has also eased the connection between the scientific dimension of this project (translation of the global objective aiming at setting up a permanent observatory into a set of methodological recommendations) and its operational dimension (construction of a query interface for planning stakeholders).

The study is organized around the five questions raised below:

1. Methodological issues arising from the setting up of a permanent observatory for cross-border areas
2. « Good practices » rules for the setting of the observatory: from the collection to the diffusion of data
3. A Case study on spatial harmonization issues. Example of the French-Belgium cross-border area: from elementary spatial units to employment areas
4. Propositions for the implementation and management of an Observatory
5. Synthesis

Strategic direction and rules of good practice to ensure an efficient implementation of the Observatory

The implementation of a permanent observatory for cross-border territories implies the construction of a solid cross-border database supporting the Observatory and providing inputs to territorial studies and analysis. The setting and implementation of the database rests largely upon the ability to meet principles outlining thematic, methodological, technical, as well as organizational dimensions. Considering those principals will help defining the framework and designing the observatory. To do so the following questions need to be answered: what are the consequences of a centralized or decentralized collection process? To what extent the metadata format guides data collection process or organization of the request interface? What are the main criteria that are guiding the choice of the base map, according to users' expectations, etc.? In the study, 6 notes (Fig.1) are presenting good practice rules and describing the main steps of the setting up of such an information system, while underlying the interactions existing between those different steps.

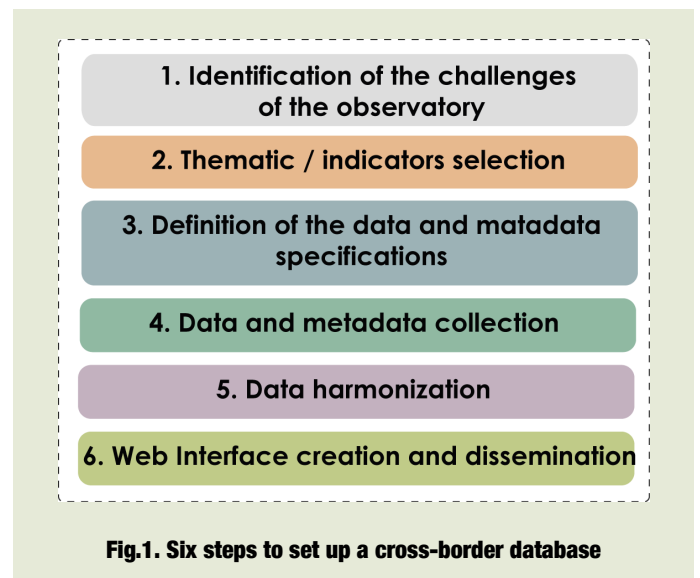


Fig.1. Six steps to set up a cross-border database

The first step is to identify thematic issues to be monitored by the Observatory. The strategic committee in agreement with the technical group shall draw thematic issues and define priorities. At this stage, strategic committee and technical group should also decide a framework for the database: aim, complexity, costs and implementation process (Fig.2).

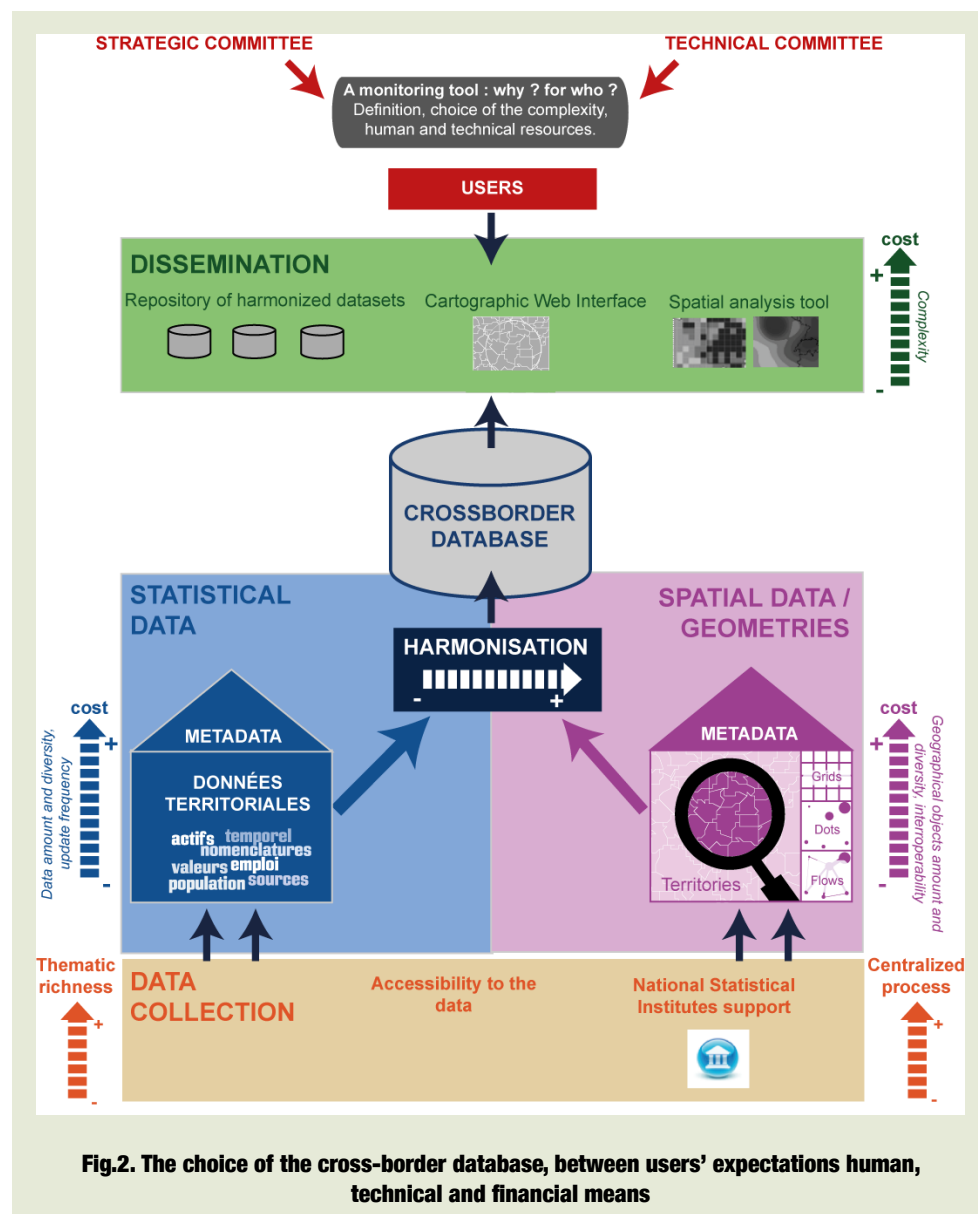


Fig.2. The choice of the cross-border database, between users' expectations human, technical and financial means

Collection of cartographic and statistic data, base maps and metadata can be more or less decentralized: a single operator can be in charge of the collection of data for all partner countries or the task could be devolved to national or subnational authorities. Choosing one or the other collection method implies different costs and work flow and deadlines. At the same time, moreover, access to data is a major issue to be tackled. In any case, this step requires the full support and collaboration of national statistic institutes.

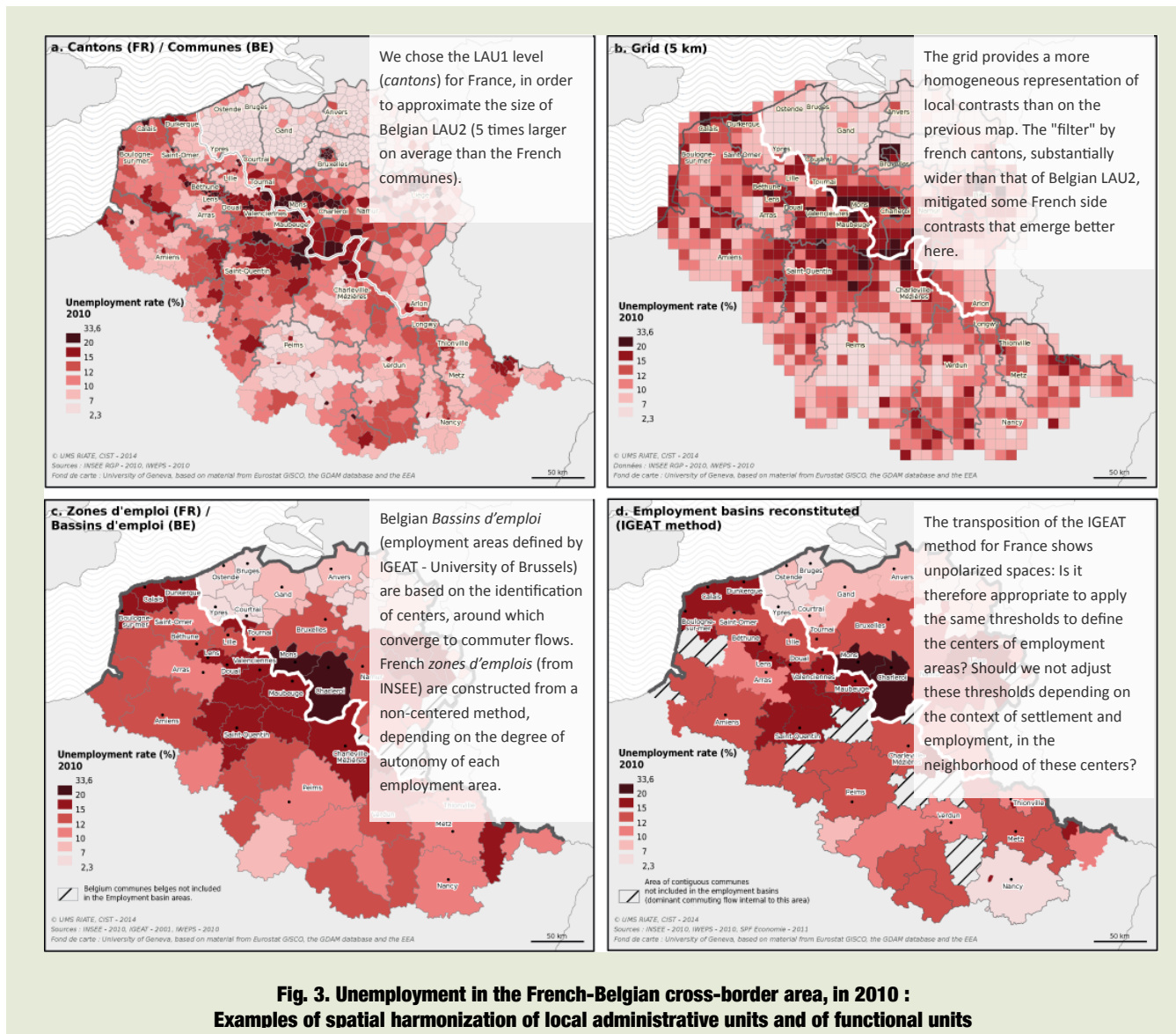
At the end of the process, the interface between users and the database has to be defined. Here again it is also about choosing among more or less sophisticated solutions: storage of harmonized data intended to a limited public (i.e. the technical group) or an interactive web-mapping tool designed for a wider public); it is also possible to include spatial analysis modules. Once again, choices made with regard to release of information imply both varying financial commitment but also different professional skills.

Finally, the existence and sustainability of the cross-border database will depend on the willingness to harmonize data across partner countries. Harmonization can be semantic (linked to definition of variables), temporal or spatial (see following point).

Harmonization of spatial divisions: from administrative to functional divisions

To understand territories, space is divided in small units to ease the spatial monitoring process. Spatial divisions are strong components of the cartographic and statistical analysis. They can introduce bias and influence the understanding of the phenomenon being represented. The harmonization of the size of spatial divisions is therefore a major issue of spatial study and especially when it comes to cross-border studies. Several solutions are available to enable comparisons among territorial divisions. The choice is based partly on the study relevant type of territorial division, whether administrative (municipalities, canton, etc.) or functional (employment and living area) (Fig.3).

In the following example, the maps below are showing the same phenomenon: unemployment rate at the French-Belgian border area. Choosing the smallest territorial division is relevant to carry out detailed analysis and reveal local contrasts. In practical terms, it is common practice to select similar sized territorial units (a). Second maps is presenting an alternative solution that avoids the use of administrative limits, preferring so a regular and geometric



division of space (b). The third map highlights functional territories as employment and living areas. This representation is enabled by the juxtaposition of heterogeneous national terms and definitions (harmonization through a bottom-up approach) (c). The last map shows a try to build employment and living areas at EU level and create cross-border areas. This try is not new and follows the footsteps of studies that have been carried out during the past years and trying to find some statistical continuity and homogeneous criteria on each side of national boundaries to create cross-border employment and living area (harmonization through a top-down approach) (d).

Within the framework of a cross-border Observatory, solutions for harmonization depend largely on scientific criteria but also on the suitability of potentials intended uses. Questioning the relevance of scientific choices is even more important as these choices overcome the limits of national administrations. The aim here is to provide alternative representations of the very same phenomenon to enhance its knowledge and understanding without enhancing the number of representations.

Scenarios for setting up an Observatory for cross-border territories

To summaries the findings of the feasibility study, three scenarios classified according to different level of technical and organizational complexity are presented (Tab.1). All three scenarios aim at setting up an Observatory for cross-border territories, that is based on a long lasting and structured framework. Whichever of the possible alternatives is held, the success and long lastingness of the Observatory will depend on the compliance with implementation requirements set up at the very beginning by both strategic committee and technical group. Support of national statistic institutes of all partner countries is also of central importance. Last but not least, all three scenarios means hiring additional staff (geomatics professional, geographer, project officer, computer science developer) over a more or less long period of time.

Tab. 1. Scenarios for setting up an observatory for cross-border territories

Observatory for cross-border areas	Scenario 1 – low standards	Scenario 2 - intermediary	Scenario 3 – most optimistic
Objective	Storage of data allowing case studies Pre-configuration of a more ambitious database	Comparable representation of cross-border territories	Processing and analysis of cross-border territories
Metadata and data collection	Data and metadata collection at a given point in time per partner states; Archiving of the information in a shared space	Collection of data metadata and geometries at several different time periods Retrieval of data in a searchable cross-border database	Collection of data metadata and geometries at several different time periods Retrieval of data in a searchable cross-border database and cartographic visualization tool supporting the decision making process
Targeted audience	Member of the technical group (very specialized target group)	Analysts and geomatics professional interested in cross-border monitoring (semi specialized audience)	Wider audience without specific knowledge on cross-border territories
Estimated time	6 months	18 months	36 months
Staffing requirements	A geomatics professional at beginner level	A confirmed web developer A confirmed geomatics professional	A confirmed project officer A confirmed web developer A confirmed geomatics professional A spatial analysts/ statistician
Investment of national statistic institutes	Slight (transmission of information)	High (sharing of data sets)	Very high (sharing of data sets)
Number of indicators to be harmonized	Limited to 5/6	10 (or more)	10 (or more a posteriori according to thematic or temporal needs))
Base maps	External resources (Voronoi)	to be designed (generalized and harmonized)	to be designed (generalized and harmonized)
census	Simple: Latest census	Intermediary: 2 census	as much as possible
Semantic harmonisation	X (one file per partner state)	Partial	High
Cartographic tools	X	X	✓
Spatial and temporal harmonization	X	Partial	High
Format of data files	Excel (data and metadata)	Searchable cross-border database	Searchable cross-border database and cartographic visualization tool
Diffusion tools	Digital workspace	Website	Website

This study details the necessary conditions to fulfill in order to set up a cross border database. It highlights the need of common and centralized governance as well as an efficient international cooperation. Monitoring cross-border territories cannot be achieved without an improvement of territorial cooperation between states.