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ATTRACTIVE DANUBE Project – Territorial Attractiveness Analysis of the Danube Region

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1 ABSTRACT

Following integrative approach of the European Spatial Development Perspective (ESDP) for achieving balanced and sustainable territorial development in Europe, European Union (EU) has launched the European Observation Network for Territorial Development and Cohesion (ESPON) programme to research and identify integrative territorial evidence models for the different EU development policies monitoring and evaluation. Among the others, territorial evidence model for a territorial attractiveness (TA) monitoring was developed as result of the ESPON's ATTREG project, since TA has been recognized by the different EU policies as one of those complex territorial qualities important for the European competitiveness and territorial cohesion.

Defined as a set of territorial capitals and assets with capacities to retain existing and attract new resources, policy-supported TA is able to create or improve territorial identity –i.e. competitive advantage- needed for reaching inclusive, smart and sustainable development goals on different levels within EU and its cross-border regions.

Thus, targeting the EU Strategy for the Danube Region (EUSDR) goals, and relying on the INTERREG Danube Transnational Programme (DTP) instrument, the Improving Capacities for Enhancing Territorial Attractiveness of the Danube Region (Attractive Danube) project has been launched in 2017 with the aim to build a TA monitoring system in the Danube Region. This system should support both national TA policy priorities identification and monitoring, as well as transnational TA policies coordination among the 11 partner-countries (including Austria) in the Danube macroregion.

The purpose of this paper is to present the initial findings of TA analysis for the Danube Region, using the results achieved during the first year of the Attractive Danube project implementation. The project objectives and activities in 2017 included: 1) data collection for the selected TA indicators, and 2) building national and transnational TA monitoring platforms, namely 11 national TAMPs and transnational CO TAMP. The focus of this paper is on the 22 common TA indicators analysis based on their values collected by the project partners for period 2008-2016. In order for the TA disparities and trends to be identified and, thus, needed TA policy improvements to be defined, methodology applied for this TA indicator analysis was compiled using the approaches elaborated and modelled by the other ESPON projects, namely INTERCO and KITCASP projects. As an initial result, it is found that positive TA cohesion trend was prevailing one and that there was no common TA indicator with strong territorial disparity trend in period 2008-2016.

Therefore, in this paper, after the Attractive Danube project's aim and objectives description, the TA as development concept is presented. Then, methodological approaches to the TA indicators data collection and analysis are defined. Finally, the main results and initial findings of the TA indicators analysis for the Danube Region are presented and interpreted, and general conclusions on possible TA policy improvements towards territorial cohesion and sustainability in future in this macroregion are made.

Keywords: Attractive Danube project, territorial attractiveness analysis and policy management, territorial attractiveness monitoring system, territorial attractiveness, EU policy

2 BACKGROUND

After the introduction of a territorial dimension as an integrative factor of the development vision in Europe by the ESDP (Faludi, 2006), and the later recognition of the territorial cohesion by the Lisbon Treaty, Europe 2020 strategy (URL2) and Territorial Agenda (TA) 2020 (EU, 2011) as the synergistic element for achieving the high competitiveness following the smart, sustainable and inclusive growth goals, the territorial development policies and spatial planning in general got much greater roles in EU, both in science and politics (Servillo et al., 2011).

This focus of the EU, as one of the leading global markets, on the improvement of competitiveness could be connected to the consequences of the last financial crisis in 2008, while territorial cohesion as one of the main goals could be directly linked to the emerging regional disparities following the EU enlargement

process. (Servillo et al., 2011; Hanell, 2014) Moreover, advancement in technologies have introduced new – namely, smart- development paradigm, giving thus a new meaning to the sustainable and inclusive growth, as well as different and specific thinking about ‘quality of life’ or ‘quality of place’, that is, what is consider to be territorially attractive or competitive for capital, people and resources in general (Servillo et al., 2011).

Therefore, the planners of the EU policies have to take into account these changes in thinking and preferences on different levels in Europe, and to direct the Cohesion Policy instrument (URL7) towards supporting these variations when achieving common EU goals of smart, sustainable and inclusive development in all INTERREG macroregions, while preserving and/or improving EU diversities in general.

Finally, these new expectations from the spatial structures and dynamics in Europe have to be reflected into the ESPON Programme’s projects and policy monitoring systems in general (URL1), while making and keeping them standardised, visual, reliable, interactive, on-line and, in general, open to the needs of all territorial development policy focus groups, like decision-makers, planners and public in general. (OECD, 2004; Lindberg and Dubois, 2014; Soria Lara et al., 2015; Walsh et al., 2014; Živković, 2017)

2.1 Attractive Danube project

In the 1st Call of DTP (URL6), under the priority for ‘Well-governed Danube Region’ and targeting the specific objective ‘Improve institutional capacities to tackle major societal challenges’, 12 financing project partners from 11 Danube countries¹, and with the total budget of 1,860,000 euros, are implementing the Attractive Danube project to strengthen their policy and democratic capacities for the TA quality management (URL3).

Thus, the aim of the Attractive Danube project is to strengthen multilevel, cross-sectoral and transnational governance and institutional capacities of the policy planners involved in territorial development within the DTP geographic scope, that is, within 11 partner-countries of the Danube Region. Additional aim of the project relates to the improvement of collection, diversity, availability, accessibility and analysis of TA-relevant data by the project partners.

Therefore, recognising lack of a good quality data and data on TA in general as one of the common challenges of the partner-countries for efficient and effective territorial development policy management, both within national boundaries and in the Danube Region in general, next project objectives are specified:

- (1) To make TA data available to policy planning stakeholders;
- (2) To improve and strengthen multilevel and cross-sector territorial development planning; and
- (3) To increase the skills, knowledge and capacities of policy planning stakeholders.

Therefore, the aim of this paper is to present results of the project activities relevant for the achievement of the first of the three specific project objectives, namely building of the TA monitoring platforms on transnational and national levels for collection and management of standardised, reliable and updated TA-relevant data, i.e. indicators, which would be available to all territorial development policy planning stakeholders and public in general. It is expected that national monitoring platforms will inform TA policy process in each partner-country, on one side, while transnational platform would support coordination of national TA policies within the Danube Region, on the other. On this way established TA monitoring network is expected to secure in the short-run efficient and effective evidence-based TA decision-making tool for the general territorial cohesion goal achievement in the Danube Region; in the long-run, this monitoring network should improve TA policy management process in the Danube macroregion by providing the more detailed and specific TA indicators data and benchmarking TA values with those on European and global levels.

In next lines, TA concept adopted within the Attractive Danube project is presented, while later the first insights into TA disparities and trends in the Danube Region, analysing the common TA indicators values for period 2008-2016, are described.

¹ Slovenia (Geodetic Institute of Slovenia - Lead partner), Hungary (Lechner Ltd., EMFIE), Czech Republic (CENIA), Slovakia (TUKÉ), Germany (aifora GmbH), Bulgaria (BIFORUM), Romania (URBASOFIA), Serbia (IAUS), Croatia (KCKZZ), Montenegro (ISSP), and Bosnia and Herzegovina (FMPU)

3 TERRITORIAL ATTRACTIVENESS

The definition of TA for the Attractive Danube project relies on the ESPON's ATTREG (URL5) and SEE Programme's Attract-SEE projects' results (URL4), which targeting Europe 2020 and TA 2020 goals as well, and it describes it as

“capacity of certain Territorial Capitals and Assets to attract and retain target groups (tourists, residents, migrants and companies/investments) by already existing or developed advantages (environmental, economic and human, anthropic, socio-cultural, and institutional), imposed by relevant policies and their goals.“ (Živković et al., 2015)

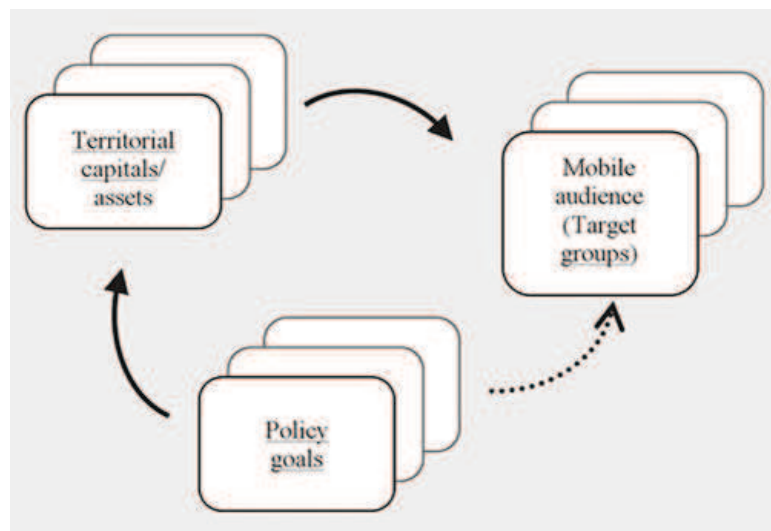


Fig. 1: Territorial attractiveness concept (URL4)

In order for the above identified TA concept (Fig.1) to be measurable and manageable, each territorial capital and asset is described with the several indicators (Table 1.) needed for the regular TA monitoring, both on the national and transnational levels. (Živković et al., 2015; Živković and Barborič, 2017)

During the Attractive Danube project implementation, here identified 22 TA indicators would be applied for standardized and consistent monitoring and coordination of the common, transnational territorial development advantages in the Danube Region, through the selective social, economic, cultural and environmental TA development goals identification and relevant policies integration.

Besides above listed 22 common TA indicators, project partners have selected, defined, collected and processed according to the commonly agreed standard and recommendations from the ESPON's KITCASP project (ESPON, 2013a) also data needed for the country-specific TA indicators, which would support preservation and enhancement of the locally important TA assets and existing EU diversities in general.

In order for the Attractive Danube project results to be sustained and support the next EU programming cycle for period 2020-2027, and to potentially leverage TA concept on the European level, data for selected TA indicators would be collected by the project partners up to 2021, i.e. 3 years after the project ends.

In the next Chapter 4 methodological approach to the TA indicators data collection and their analysis for the evidence-based TA policy measures identification is described. Afterwards, in the Chapters 5 and 6 TA indicators analysis results interpretation and conclusions are presented.

4 METHODOLOGY

Methodology applied for getting the initial insights into the TA disparities between the partner-countries and for the TA trends identification within the Danube Region, included next two steps:

- (1) TA indicators data collection; and
- (2) TA indicators analysis.

4.1 Data collection

During the Attractive Danube project 11 national TAMPs and transnational CO-TAMP would be established for the TA monitoring, evidence-based decision-making and relevant territorial development policy process management in the Danube Region.

No.	TERRITORIAL ASSET	TA INDICATOR	TARGET GROUP
ENVIRONMENTAL CAPITAL			
1	Environmental quality	Air pollution: Ozone concentration	tourists, residents, migrants
2		Population connected to urban waste water treatment with at least secondary treatment	
3	Natural resources and energy	Electricity generated from renewable sources	companies/investments, residents
4		Consumption of water per capita	
ANTHROPIC CAPITAL			
5	Landscape quality	% of terrestrial area protected (total and by ecological region)	tourists, residents
6	Infrastructures	Population (or households) with accessibility to high-speed broadband (1 Mbit/second up and down)	companies/investments, tourists, residents, migrants
SOCIO-CULTURAL CAPITAL			
7	Culture	European cultural sites on the Unesco World Heritage List, 2010	tourists, residents, migrants
8	Quality of life	Life expectancy at birth by sex (Europe 2020 indicator)	companies/investments, tourists, residents, migrants
9		Gross disposable household income	
10		People at risk of poverty or social exclusion (Europe 2020 indicator) or % in risk of poverty	
ECONOMIC/HUMAN CAPITAL			
11	Knowledge & Innovation	Population aged 25-64 with tertiary education	companies/investments, residents, migrants
12		Research & Experimental Development expenditure as % of GDP (Europe 2020 indicator)	
13	Employment	Employment rate 20-64 years by sex [%] (regional) (Europe 2020 indicator)	companies/investments, residents, migrants
14		Youth unemployment rate	
15	Specializations / Key sectors	Share of employment by sector	companies/investments
16	Tourism	Number of overnight stays of tourists per capita per year	companies/investments, tourists
17		Share of tourism related employment in total employment	
18	Investment promotion	% of GDP of foreign direct investment	companies/investments, migrants
19	Population	Population growth rate	residents, migrants
20		% of population in age 20-64 years	
21		Ageing index	
INSTITUTIONAL CAPITAL			
22	International relations	Number of foreign students and/or professors	companies/investments, migrants

Table 1: List of common territorial attractiveness indicators compiled by Attract-SEE project partner-countries from different sources/databases, like Eurostat, OECD, European Commission, European Environmental Agency, United Nations, UNESCO, World Bank, ESPON projects (URL4)

Comparing to the precedent Attract-SEE project, data collected during the Attractive Danube project both for country-specific and 22 common TA indicators would be stored, analysed, managed, visualised and

disseminated using the upgraded interactive, online and user-friendly Web GIS application STAGE II (http://cotamp.gis.si/attractive_danube/).

From the technical point of view, STAGE II application (Fig.2) is integrated platform for dissemination of the geospatial statistics.² For purpose of the Attractive Danube project, upgraded STAGE II GIS database registry with just aggregating spatial units for Slovenia was extended with the project partners' spatial units (Fig.3), which data are stored within the Eurogeographics database.

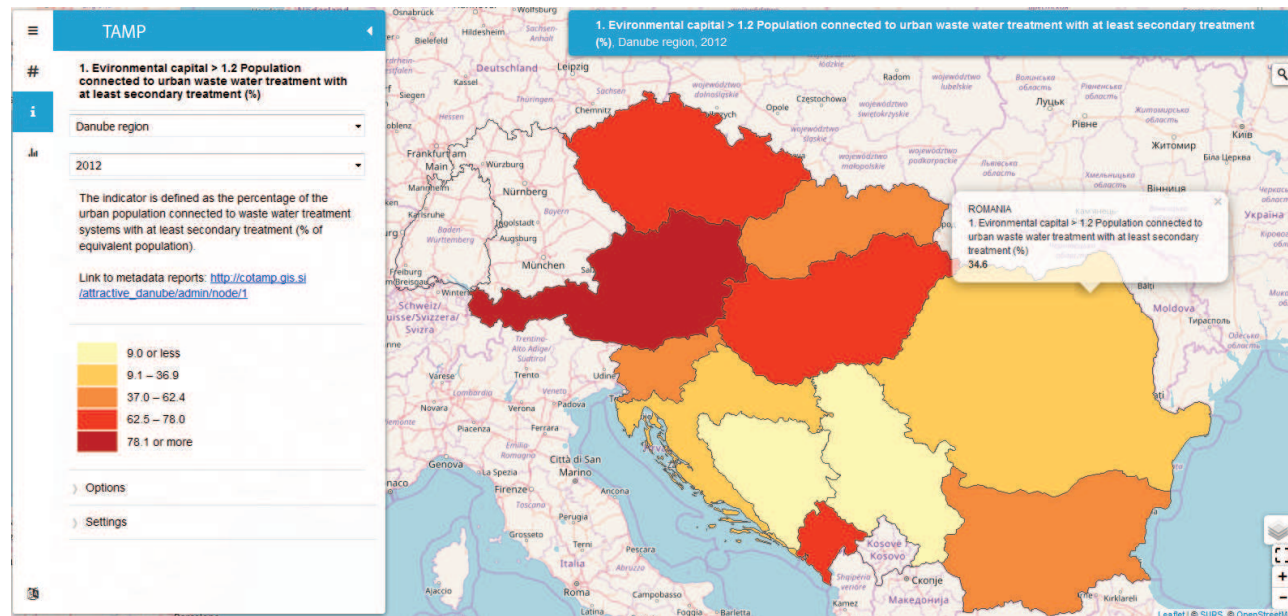


Fig. 2: STAGE II Web-based GIS tool for inserting, monitoring and visualization of TA in Danube Region

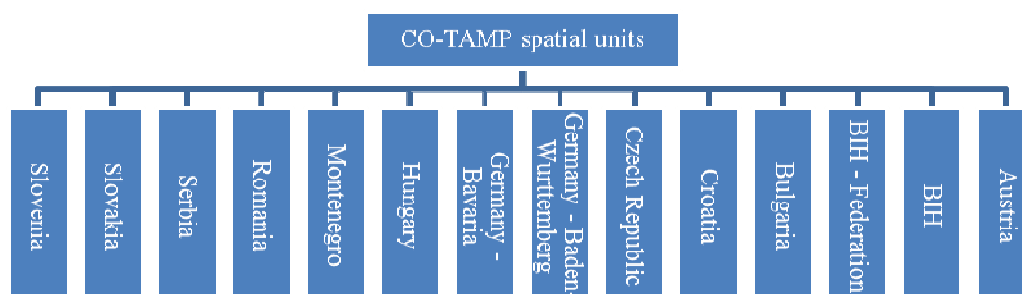


Fig. 3: Spatial units for TA indicators data aggregation within transnational CO-TAMP monitoring platform for Danube Region

Therefore, after the data for national and common TA indicators were collected and processed according to the commonly agreed definition and methods, TA indicators values have been input by the project partners using one of the two methods: 1) by keying-in indicators values directly to the Web GIS application as attributes of the spatial units (NUTS regions) (Fig.2), and 2) by filling indicators values into the Excel table and their later migration to the STAGE II database.

For the purpose of this paper, only common TA indicators values were used in the TA analysis of the Danube Region.

4.2 Indicator analysis

In order for TA analysis for the Danube Region to be performed and multi-year trends to be determined, common TA indicators values for all project partners have been processed and initial findings identified using the selected statistical methods and analysis. These statistical methods and analysis are combined results from the relevant ESPON projects, namely INTERCO (ESPON, 2013b) and KITCASP. According to the recommendations from these two projects, appropriate analysis and presentation of the findings and

² This application is developed and maintained by the Geodetic Institute of Slovenia, in association with the Statistical Office of the Republic of Slovenia, and its development was funded by the EUROSTAT

indicators themselves, which could respond to the territorial development policy planners, decision-makers and public needs, should include several indicator values, trends and their visualisation, i.e. maps with graphs.

Therefore, for getting the initial insight and understanding of TA status in the Danube Region in period 2008-2016, territorial disparities and trends for each of the 22 common TA indicators are calculated using the annual values for all partners' spatial units (Fig.3), and presented here by:

- Linear regression of minimal annual values (Min);
- Linear regression of maximal annual values (Max);
- Linear regression of average annual values (Avg);
- Linear regression of standard deviation of average annual values (StDev); and
- Linear regression of sigma convergence or coefficient of variation of annual values (CV).

After the above values calculation, using the adapted ranges recommended by the INTERCO project (Table 2.), cohesion trends (Cohesion) are defined for each of the 22 common TA indicators.

Territorial cohesion evaluation			
	Territorial disparities/convergence trend		Territorial cohesion trend
$-0.5 < R^2 < 0.5$	weak disparities trend/no clear convergence	▶	stable territorial cohesion
$R^2 = 0.5 - 0.75$	moderate increase in disparities	▼	moderate decrease of territorial cohesion
$R^2 = -0.5 - -0.75$	moderate decrease in disparities	▲	moderate increase of territorial cohesion
$R^2 > 0.75$	strong disparities increase	▼	strong decrease of territorial cohesion
$R^2 < -0.75$	strong disparities decrease	▲	strong increase of territorial cohesion

Table 2: Possible territorial disparities and cohesion trend statuses (adapted from INTERCO project)

Since the STAGE II application is at the moment in a final testing phase, after the improvements and certain adaptations have been made to the initial application database and user-interface, examples of the visualisation (maps with graphs) for the common TA indicators and here performed TA analysis were not available for this paper.

5 RESULTS WITH DISCUSSION

After definition of the methodological approach for TA disparities and trends calculation and presentation, first step in the performed TA analysis included basic data quality assessment for the collected TA indicators values by the all project partners.

During this data quality assessment, data integrity checking included correction of the few omissions in collected TA indicators values, as well as removal of the zero values for missing ones, in order for the statistical analysis functions to work properly and give realistic values.

Also, TA indicators values assessment reveals that in period 2008-2016 data completeness (Data complet.) was the highest for the TA indicator “% of population in age 20-64 years” (94.44%) and the lowest for the “Number of foreign students and/or professors (66.67%), while on average completeness was the highest for the Economic/human capital indicators (87.24%). Overall, average completeness of the collected TA indicators data in period 2008-2016 was 83.49%, which was assumed as enough high completeness for the initial TA indicators analysis performance and results –TA trends- interpretation.

Second step of the TA analysis presented in this paper included indicators values analysis and interpretation of the identified TA disparities and trends in the Danube Region by the TA capitals. (Table 3.)

Here reported imperfect data completeness limits accuracy of calculated indicators values as well as reliability and quality of statistical analysis results interpretation, requiring later additional data collection and processing on side of project partners, including indicators values re-comparison and validation of conclusions made in this paper.

5.1 Environmental capital

Analysis of the 4 common TA indicators in the domain of Environmental capital revealed weak TA disparity trends between partner-countries (Fig.3) in the Danube macroregion. In other words, despite some variations in the TA indicators values during 2008-2016, cohesion levels stayed more-less the same, i.e. stable.

On average, trends for the minimal values, maximal values, average values and standard deviation values for this group of TA indicators were negative or decreasing, producing thus slight overall positive increase in the TA cohesion between the Danube Region countries.

Also, in the period 2008-2016 the biggest change was registered for the water consumption per capita, where both minimal and maximal values for this TA indicator decreased, making registered disparity as well as water consumption per capita in general in the Danube Region to decrease (-0.24). On the other side, due to small increase in the share of population connected to the urban waste water utilities with the secondary treatment in the Danube Region, this TA indicator had the highest disparity between partner-countries in the domain of environmental assets (0.48). Finally, TA disparity trend in the area of renewable sources usage for electricity generation was slightly decreasing, probably due to some partner-countries increased investments in the clean energy production, while number of days with air pollution by ozone kept in period 2008-2016 stable and negative.

While decrease in the consumption of water per capita is positive from the environment protection perspective, special policy measures and priorities should be given in future to enhancement of the air and urban waste water quality, as well as to renewable energy consumption, probably in the form of different financial and other stimuli, like tax exemptions for buying e-cars or tax increase for petrol/diesel cars.

5.2 Anthropic capital

Since slower increase of the protected areas in the Danube Region, where only maximal values increased and minimal stayed stable, TA disparity between the partner-countries for this TA indicator increased just slightly in period 2008-2016, keeping the total cohesion trend stable. However, in future, policy measures are needed for stimulating all Danube countries to expand protected areas, that is, to increase also today's minimal values for this TA indicator.

On the other side, due to the increased investments in high-speed broadband, decrease of disparity among the partner-countries for this TA indicator was enough significant to produce positive moderate increase of cohesion trend in the Danube Region in the same time period.

5.3 Socio-cultural capital

In general, TA indicators analysis for the Socio-cultural capital domain revealed general decrease of TA disparities, that is, increase in TA cohesion within the Danube Region.

This is the result of increased number of the UNESCO sites; increased minimal life expectancy values –both for male and female- due to better health services; and increase in both minimal and maximal values for gross disposable household income in the Danube Region in general in period 2008-2016. However, in the same period, there was on average increase of the population at risk of poverty or social exclusion in the partner-countries.

Also, trends for the minimal, maximal and average values for these TA indicators were positive or increasing, while standard deviation values had negative trends. These trends produced on average moderate decrease in TA disparities, that is, moderate increase in overall TA cohesion.

This means that socio-cultural asset TA capacities within the Danube Region were enhanced in period 2008-2016, so supported by TA policy measures in future these assets could underpin the retention of existing and/or attraction of new people, investments and other development resources.

5.4 Economic/human capital

Also, according to the TA indicators analysis for the Economic/human capital, trends of the minimal, maximal, average and standard deviation values were positive and increasing on average in period 2008-2016, while average TA disparities trends were negative in the same period. This means that TA disparities between countries in domain of economic/human assets decreased, and that TA capacity of the Danube Region became more coherent and improved in general.

Detailed analysis of the common TA indicators for this capital revealed:

- Overall share of the population aged 25-64 with tertiary education increased in the Danube Region, producing strong indicator values convergence (-0.86) and strong positive cohesion trend in the period 2008-2016. In other words, this evenly distributed and educated workforce should present

strong TA factor for future investments and cohesive and sustainable development of the Danube Region;

- Moderate increase of the cohesion trend for the Research and development expenditure TA indicator was result of increase in both minimal and maximal shares of GDP invested by the partner-countries in the Danube Region between 2008 and 2016. Investments in R&D should be continually supported by policies in the future, since they could attract highly educated people and innovation capabilities to the Danube Region;
- General stable cohesion trend of the employment rate for male aged 20-64 years and slightly moderate decrease of cohesion trend for the employment rate for female aged 20-64 years, despite the strong positive trends of both minimal and maximal values for female employment during 2008-2016. Identified trends are assumed to be results of the previous inequalities between male and female employment among partner-countries in the Danube Region, which should be improved and supported by policies in the future period;
- General stable cohesion trend of the youth unemployment rate in the Danube Region, despite the increase in both minimal and maximal values trends as well as increasing trend of average values for this TA indicator between 2008 and 2016. The problem of youth unemployment should get more attention in the Danube countries policies, since it has direct influence of the other TA indicators values and TA of the Danube Region in general;
- General decrease in the share of employment in I and II sectors and increased employment in III sector, which produced stable TA disparity and cohesion trends among the partner-countries employment in the II sector, on one side, and moderate and strong cohesion trends in employment for I and III sectors respectively in period 2008-2016, on the other side;
- Weak disparity trends and stable cohesion trends for both Number of overnight stays of tourist and Share of tourism related employment TA indicators, where trends for both minimal and maximal values were positively increasing in period 2008-2016. This indicates improved TA and more evenly developed touristic capacities and offer within the Danube Region, as well as positive and stronger orientation of partner-countries to this economic sector probably in future;
- Despite disparities among the partner-countries in domain of % of FDI in GDP, where some Danube countries experienced decrease and others smaller increase of FDI percentage in period 2008-2016, there were increase in both average and standard deviation values for FDI, while cohesion trend stayed still stable;
- Moderate decrease in disparities and increase of cohesion trend for the Population growth rate and % of population in age 20-64 years TA indicators values were probably results of the current migration flows in Europe, where (prevailingly) younger population immigrate to the older –wealthier- EU Member states with better employment opportunities. These trends produced in period 2008-2016 slight decrease and certain balancing of the population growth rate in the Danube region, thus requesting special attention in territorial development policy measures definition in the future; and
- Linked to the previous TA indicators values and trends, the Aging index values in period 2008-2016 revealed the weak disparities and stable cohesion trend among the countries in the Danube Region, due to the notable increasing trend in the values for minimal ageing indices. These indices values demand targeted policy measures to be implemented in order for existing younger population to be retained and new one to be attracted to the Danube Region countries.

5.5 Institutional capital

Since the Institutional capital is measured by (only) one common TA indicator, comparative indicator analysis was impossible to be performed.

However, despite the noticeable TA indicator values increase in period 2008-2016, as well as moderate decrease in TA disparity followed by the strong cohesion trend, it should be noted that data completeness was merely 66.67%. This is because mainly older EU Member States actively participate in the academic/student exchange, supported by relevant EU and national programmes.

No.	TA INDICATOR	TRENDS (R ²) 2008-2016						
	ENVIRONMENTAL CAPITAL	Data complet.	Min	Max	Avg	StDev	CV	Cohesion
1	Air pollution: Ozone concentration	73.81%	-0.0308	0.0375	-0.0317	0.3609	0.3477	▶
2	Population connected to urban waste water treatment with at least secondary treatment	71.43%	0.2651	-0.2863	-0.3041	0.0002	0.4814	▶
3	Electricity generated from renewable sources	81.75%	-0.1598	0.6445	0.2620	0.0479	-0.0964	▶
4	Consumption of water per capita	71.43%	-0.7918	-0.4928	-0.8604	-0.6202	-0.2403	▶
	ANTHROPIC CAPITAL	Data complet.	Min	Max	Avg	StDev	CV	Cohesion
5	% of terrestrial area protected (total and by ecological region)	74.60%	0.0000	0.8118	0.6875	0.9065	0.4773	▶
6	Population (or households) with accessibility to high-speed broadband (1 Mbit/second up and down)	92.06%	0.6175	-0.0560	0.9807	-0.9521	-0.9711	▲
	SOCIO-CULTURAL CAPITAL	Data complet.	Min	Max	Avg	StDev	CV	Cohesion
7	European cultural sites on the Unesco World Heritage List, 2010	99.21%	0.3000	0.0000	0.9030	-0.8601	-0.8998	▲
8	Life expectancy at birth by sex (Europe2020 indicator) - male	85.71%	0.9683	0.0005	0.6819	-0.7629	-0.8309	▲
	Life expectancy at birth by sex (Europe2020 indicator) - female	84.92%	0.9942	0.4464	0.6119	-0.8333	-0.8500	▲
9	Gross disposable household income	78.57%	0.3633	0.9409	0.8360	0.6656	0.1760	▶
10	People at risk of poverty or social exclusion (Europe2020 indicator) or % in risk of poverty	69.05%	0.8602	-0.0176	-0.0222	-0.0614	-0.1372	▶
	ECONOMIC/HUMAN CAPITAL	Data complet.	Min	Max	Avg	StDev	CV	Cohesion
11	Population aged 25-64 with tertiary education	84.92%	0.3138	0.7167	0.9125	0.0122	-0.8656	▲
12	Research & Development expenditure as % of GDP (Europe 2020 indicator)	80.16%	0.0538	0.0962	0.4774	0.1607	-0.5924	▲
13	Employment rate 20-64 years by sex [%] (regional) (Europe2020 indicator) - male	93.65%	0.0599	0.4703	0.0093	0.2807	0.4601	▶
	Employment rate 20-64 years by sex [%] (regional) (Europe2020 indicator) - female	93.65%	0.5616	0.9490	0.2166	0.4577	0.5426	▼
14	Youth unemployment rate	93.65%	0.2281	0.0084	0.2671	0.0330	-0.3149	▶
15	Share of employment by sector - I	87.30%	-0.0231	-0.3399	-0.3137	-0.7853	-0.5017	▲
	Share of employment by sector - II	85.71%	-0.7758	-0.8769	-0.6024	-0.0823	0.0682	▶
	Share of employment by sector - III	85.71%	0.8115	0.3543	0.8615	-0.9096	-0.9058	▲
16	Number of overnight stays of tourists per capita per year	89.68%	0.8679	0.5800	0.9203	0.8897	-0.0031	▶
17	Share of tourism related employment in total employment	72.22%	0.4407	0.7873	0.9091	0.4851	-0.0013	▶
18	% of GDP of foreign direct investment	76.98%	-0.2314	0.0589	0.1116	0.4424	0.2038	▶
19	Population growth rate	93.65%	0.0069	-0.1297	-0.2044	-0.0174	-0.5607	▲
20	% of population in age 20-64 years	94.44%	0.5655	0.0875	0.5442	-0.6333	-0.6331	▲
21	Ageing index	89.68%	0.8693	0.0353	0.1809	0.1312	0.0375	▶
	INSTITUTIONAL CAPITAL	Data complet.	Min	Max	Avg	StDev	CV	Cohesion
22	Number of foreign students and/or professors	66.67%	0.5983	0.9785	0.8618	0.0845	-0.7701	▲

Table 3: TA indicators trends within Danube Region in period 2008-2016

5.6 Towards TA policy recommendations

Based on the above TA indicators analysis, TA policy priorities in the future should be directed towards selective and targeted improvements in the domains of all TA capitals and assets within the Danube Region, where partner-countries disparities and specifics should be carefully observed when TA-relevant policy conclusions and decisions are to be made.

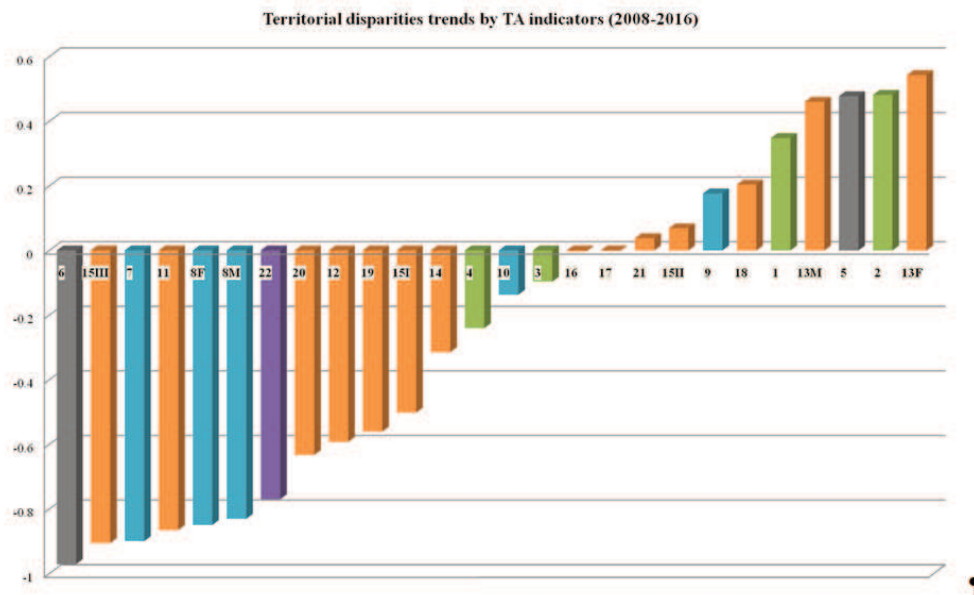


Fig. 4: Territorial disparities trends in period 2008-2016 by TA indicators (TA capitals: ■ Environmental, ■ Anthropogenic, ■ Socio-cultural, ■ Economic/human, and ■ Institutional)

Although additional insights are needed, performed analysis of the territorial disparities and trends by TA indicators in period 2008-2016 (Fig. 4) points to the need for policy measures mostly within the demography and environmental domains in the Danube region. These are domains where territorial disparities are the biggest and predicted to increase in future in absence of corrective or relevant policy actions. TA indicators for which the territorial disparity trends (CV) are the highest include (in decreasing order):

- (1) Employment rate 20-64 years by sex [%] (regional) (Europe2020 indicator) – female,
- (2) Population connected to urban waste water treatment with at least secondary treatment,
- (3) % of terrestrial area protected (total and by ecological region),
- (4) Employment rate 20-64 years by sex [%] (regional) (Europe2020 indicator) – male,
- (5) Air pollution: Ozone concentration,
- (6) % of GDP of foreign direct investment,
- (7) Gross disposable household income,
- (8) Share of employment by sector – II, and
- (9) Ageing index.

This means that in order for general territorial cohesion goal to be achieved for the TA quality in the Danube Region, TA-relevant policy measures of the Danube countries should be prevalingly focus on the Economic/human and Environmental capitals and assets in the future.

At the same time, achieved positive territorial cohesion trends for the other common TA indicators should be preserved and further improved in accordance to the development context and priority changes within the Danube Region as well as individual partner-countries, targeting the goals and vision of the EUSDR and Europe 2020.

6 CONCLUSIONS

In this paper, initial findings of the TA analysis for the Danube Region in period 2008-2016 are presented. This analysis was performed using the values of 22 TA indicators values collected during the first year of Attractive Danube project implementation, while its methodological approach was based on the recommendations of the two ESPON projects relevant for territorial development policy and spatial planning in general, namely INTERCO and KITCASP projects. Results of this TA indicators analysis are part of the Attractive Danube project activities oriented to the project objective for establishment of the efficient and effective TA monitoring platform for evidence-based decision-making and policy management in the Danube Region.

On one side, TA indicators analysis revealed general territorial cohesion of the Danube Region or, at least, prevailing positive TA cohesion trend and no common TA indicator with strong territorial disparity trend in period 2008-2016. At the same time, outcomes of the TA analysis confirmed that methodology and approach chosen within the Attractive Danube project for the TA monitoring and platforms establishment are appropriate.

For the sustainability of the project results, here used TA indicators data for period 2008-2016 along the TA data that would be collected up to 2021, would be integral part of the transnational CO-TAMP and 11 national TAMPs platforms. It is expected that these TA platforms would be able to timely and efficiently inform TA policy management cycle and support evidence-based decision-making in each project partner country, as well as to support transnational coordination of TA policy priorities between them.

Also, based on the here described analytical results, it is assessed that results in the first year of project implementation provide good basis for the next phases of the Attractive Danube project, and that they would appropriately support planned institutional capacities building necessary for the effective TA policy management and democratic capacities improvement in the Danube Region.

Since the coefficient of variation, used here for the TA disparities and trends calculation, was limited just to the countries within the Danube region, it might be valuable for the Attractive Danube project results to include in the next TA analysis EU-level or other European macroregions' values for the same TA indicators for the benchmarking purposes.

Finally, due to emerging significant regional development disparities in Europe, introduction of the lower-level spatial units within the TA monitoring platforms, especially national TAMPs, should be considered for getting optimal TA analysis results and policy priorities decision-making outcomes in future.

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