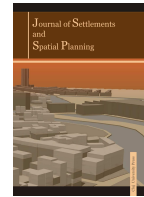




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Aspects of Development and Territorial Potential in Turda - Câmpia Turzii Urban Agglomeration, Romania

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ABSTRACT

Territorial cohesion is a means through which diversity is transformed into an advantage. Therefore, territorial cohesion creates bonds between economic efficiency, social cohesion and ecological balance. Turda and Câmpia Turzii, both industrial cities, seem hardly to adapt to the deindustrialisation process due to the small distance to Cluj-Napoca in which is concentrated more than 60% of the county's population, more than 80% of turnover and over 90% of investments. Distance, division and concentration are currently the enemies for a balanced territorial development determined by the negative competitiveness between large and small cities. This situation creates a hypertrophy of the urban network of Cluj County. Analysing the development degree and the bonds between the main components, they reflect a less viable space with large socio-economic disparities, yet with high territorial potential. The access to means of transportation, the diversity of natural attractions and resources, and being located nearby a large city of international importance are assets that should be valued and transformed into advantages. In this case, economy is the one that sets a certain developing direction for the other components, by influencing labour force quality, migratory growth fluctuations, quality of the environment, and use of natural resources.

1. INTRODUCTION

Human settlements need sustainable features, especially, the cities which in the last decades registered impressive inhabitant growth and importance in the international and national urban network. Big cities became centres for the accumulation of information and strategic points in human interactions and economical exchanges [1]. These transformations, produced not only a development of the city, but also affected the nearby settlements. But most of the times, the concentration of development in the city caused a sub-development of the small and medium cities and rural areas nearby. Therefore, at this level, two major objectives of sustainable development were imposed: *new rural-urban relations and polycentric*

development of the settlements network [2]. This network is made of a settlement assembly taken as a system, where development is the result of the complexity degree between the existent interrelations and the state of each subsystem taken as a part of the whole. Cities and industrial agglomerations are centres and nodal concentrations of the modern society and every change in the network and in the urban areas structure affect the entire complex of regional development and of interregional balance. In the general evolution of the interaction within a territory, the main problem is not the urbanization, per se, but the specific forms in the network, the processes, and also the regional disparities.

The uniqueness of the urban network of Europe and the increase of the disparities between the

urban-rural environment, the big cities and the medium ones have led to a new concept in what the development policy of the European Union is concerned, a concept with a strong geographical character: *territorial cohesion*. This concept brings new approaches and meanings of sustainable development. The direct relationship between sustainable development and balanced geographical development is in the *harmonisation of the geographical needs under economic and social circumstances, valuing the ecological and cultural potential of the territory in a responsible way* [3].

In achieving this goal it is essential that the role and the importance of territorial diversity of space to be correctly understood. This diversity can lead to inequalities in socio-economic development, for which the new central concept of the EU development policy proposes to transform the territorial potential into an advantage, thus contributing to the development of the local competition by supporting those economic sectors that have a strong support and that are complementary to its regional economic system [4].

This major objective has been strengthened by the Territorial Agenda of the EU 2020 for the intelligent, durable and favourable development of the inclusion. The objectives of this strategy can be reached only if its territorial dimension is taken into account, because development opportunities vary from one region to another, from one city to another, and the complementary territorial potential in the neighbouring regions will contribute to the comparative advantages exploitation, increasing the supplementary development potential [5]. Reducing the zones of agglomeration of the economy will contribute to a more uniform distribution of advantages, creating a new balance between the urban poles of growth and the adjacent zones.

The causes that represent a major impediment in the realisation of territorial cohesion have *territorial-spatial characteristics: concentration, cooperation, and connection*. In this context, in order to eliminate these causes, there are also necessary some *territorial-spatial objectives*. Thus, the Europe Strategy 2020 links to the cohesion policy is extremely important for supporting the territorial potential development in conformity with the territorial identity concerning the “*common good*” [6]. The territory becomes thus a whole with particular characteristics, resulted from management methods and components, interaction. Nevertheless, this territory has *identity, efficiency, and territorial quality*. Consequently, every territorial system is unique, so it is essential to know the level of development compared to its system and the positive aspects that can be transformed into advantages that shall be exploited.

The appearance of the urban tentacles in the Corridor of the Arieșul Inferior creates the possibility

for the formation of an urban micro-region by the fusion of distinctive agglomerations through a settlement network, both morphological and functional.

Former industrial cities, Turda and Câmpia Turzii, are the result of the complex dynamic relationship between urbanization and industrialization. Between these two processes, there is a complex and dynamic relationship which evolved under different forms. So, the industrialization, in its expansive generalization of the industrial process in all the productive fields, determined a certain type of systematised urbanization, and, in the present form, the modern demands of the urbanization require a different type of industrialization, focusing on qualitative features in order to eliminate over concentration and urban pollution and to ensure an organic and balanced development of current urban centres [7].

2. METHODOLOGY AND DATA

To become sustainable, cities must fulfil certain structural and functional features that they can reach by setting some quantitative and quantifiable objectives [8]. Although initially the sustainability concept was considered a matter of technology, pollution, waste, of energy, etc., nowadays it is universally accepted that sustainability has three components: economic, social and ecological. All these components are interdependent and complementary.

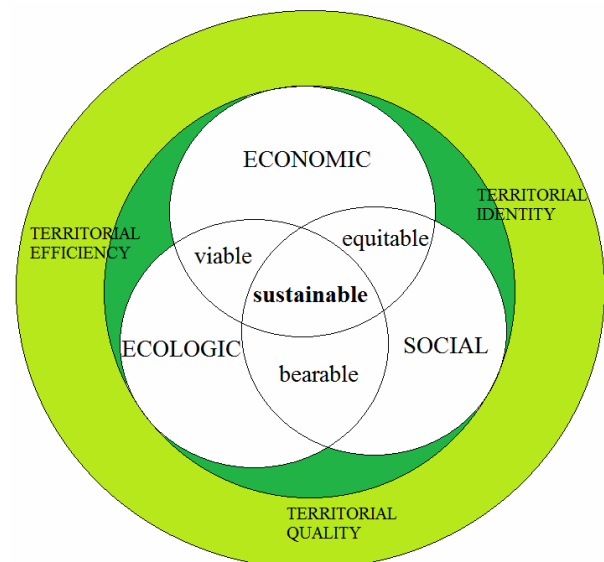


Fig. 1. Relation between territorial cohesion – sustainable development [22].

To determine the development level of the two cities, a Sustainable Value Map has been used. *The Sustainable Value Map* is a holistic method for the evaluation of sustainability, being a *practical model of diagnosis used successfully in urban development study* [9]. This method was conceived by Chris Butters in NABU (Norwegian Architects for Sustainable

Development) and offers an overview of the positive aspects of a territorial system state. A first quality of SVM is that it *offers a view over all components, without pointing out only the negative aspects*. Also, *all the sub-parameters used have the same priority* [6].

The Sustainable Value Map has several general characteristics:

- it is a graphical representation of a concentric circle divided in three equal parts which represent the three components;

- the exterior layer of the circle corresponds to the maximum sustainability level, this feature decreasing as we reach the interior;

- each main component has a set of indicators which are divided into sub-themes (in our case, for each component, we chose four sub-themes);

- the number of indicators and the number of sub-themes may vary due to certain circumstances;

- for this study, there were selected 11 indicators for the ecological system, 18 for the social system and 15 for the economical system;

- points will be given by comparing the value of the analysed indicator for the city with either national urban average or with county urban average according to relevance and availability.

The indicators used point out the minimal and general features of a settlement development. *Each indicator was given a score from 1 to 5 by comparing it with the national or regional average, considering the availability*. The circle's scale includes numerical values from 0 to 5, where 0 indicates a weak performance and 5 indicates a performance equal or over the average to which was reported.

The sustainability degree of a sub-parameter is calculated by the arithmetic average of the indicators scores. Also, to calculate the score for a system, the arithmetic average of all the scores of the sub-parameters is made. Most of the indicators used are quantitative, but for some sub-parameters, like those for urban identity or for governance, subjective indicators were used. To calculate the scores, a proportion to the average is made: the maximum score (5) is given to the value to which the proportion is made or to the sustainable one. The indicators with values over or close to the average get the highest score.

Like any other method, SVM has some limits. First, because of the meaning of sustainability, at present, there is no universal accepted value to define it and a concrete method to study it. This is because of the developing differences worldwide, but also because of the human perception of the level, direction and features of development. Each country wants to reach a certain level of sustainable development in a certain period. Therefore, the issue of sustainable development, is in continuous transformation, imposing new analysing directions and new approaches. There will never be an equable developing level, because each

territory is different, with other possibilities and expectations. Therefore, applying the SMV in this study offers an image over the developing degree of the urban agglomeration Turda-Câmpia Turzii in the urban network of Romania and Cluj County.

Statistical data used in this study were provided by the Regional Statistical Direction Cluj, by the Development Strategy of Cluj County for the period 2014-2020, and by Turda - Zonal Centre, development concept at a regional level 2011-2016, the Developing Strategy for the Câmpia Turzii Municipality 2008-2025, and the online interrogation system provided by the National Institute for Statistics.

3. RESULTS AND DISCUSSIONS

3.1. The urban system of Cluj County

Due to their geographical position and to their complex functions, cities ensure the polarization of a territory with different intensities by the rank and the relations between them and the territorial system that are part of [10].

County's territorial potential gives a certain identity and efficiency in socio-economic and territorial development. Its urban network arrangement and its natural diversity give a characteristic model of development, which could contribute to a polycentric balanced and sustainable development of all administrative-territorial units, if it is adequately exploited. The urban network of Cluj County is formed of six administrative-territorial units:

- *Cluj-Napoca*: rank 1, municipality, growth pole, and centre for the North-West Developing Region;

- *Turda, Dej, Câmpia Turzii and Gherla*: rank 2, municipalities;

- *Huedin*: rank 3, city.

At a first analysis, without getting into details, the urban network of Cluj County may be considered harmonious, according to the distribution of the urban centres in territory, these centres polarizing theoretically the rural areas nearby.

Cluj County is one of the most urbanized counties in Romania, having an urbanization value of 66% in 2012, occupying the second place at the national level according to the number of municipalities. The distribution of its cities represents a characteristic territorial model, given by the formation of two urban agglomerations: Turda-Câmpia Turzii and Dej-Gherla. Important industrial centres during communism, these two urban agglomerations go through an intense process of industrial restructuring, which determines important socio-economic changes.

A more detailed analysis of the urban network of Cluj County indicates some assets which are the key-points in the increase of the regional competitiveness of the county. Cluj County owns 3.2% of the total population of Romania; this value remains constant

during the three periods of analysis. With this value, the county is placed on the seventh or eighth place if Bucharest municipality is taken into consideration. With higher values than 3.2% of the demographic potential are the following counties: Iași (3.9%), Prahova (3.8%), Constanța (3.4%), Bacău, Suceava, Dolj (3.3%), and Timiș County, with a 3.2% value.

Taking into account the urbanization degree, it may be said that Cluj County is placed fifth in the urban hierarchy, according to the population that lives in the urban area. For 2012, the urbanization rate of Cluj County was of 66%, registering a descendant evolution from 67.4% in 1992 to 66.3% in 2002. The county's average according to the urbanization degree is 55%, slightly growing in 2002. Counties with higher urbanization rate than Cluj County, in 2012, are the following: Hunedoara County, with a value of 76.7%, with the highest number of municipalities (7) and 7 cities, followed by Brașov, with a value of 73.1%, Constanța with 69.3%, and Sibiu with 66.5%.

The number of cities in the county is reduced to one city, Huedin, placing Cluj County to the other extreme, being the only county in Romania, with only one city in 2012. Obviously, the explanation is given by the shift of administrative-territorial units from one category to another. At the 2002 census, Cluj County had 5 municipalities and one city. At the opposite pole, the highest number of cities is in Prahova County which had 12 cities in 2012.

The urban morphology of Cluj County reveals a uniform distribution in territory, one city having in average a polarizing surface of about 1,050 square kilometres and 12.3 communes per city. Still this value is over the national average of 745 square kilometres per city. The large polarizing surface of one settlement may determine the formation of some urbanized areas in the middle of some mainly rural areas [11].

A major advantage of the urban network of Cluj County is represented by Cluj-Napoca municipality also, the residence, being one of the eight development poles in Romania. In addition, Cluj-Napoca is an economic pole of competitiveness in Romania. From another perspective, Cluj-Napoca municipality, in its continuous socio-economic evolution, induces major unbalance for the other cities in the county, creating a so called *hypertrophy of the urban network*, process characteristic for developing countries.

This fact is because of the excessive concentration of all the attractive factors of the development. Cluj-Napoca municipality owns over 60% of the population in the county, 80% of the turnover and 90% of the investments. Under these conditions, distance turns from an advantage to a disadvantage. The unfavourable effects of a growth pole over the nearby areas are the monopole over the imports to the detriment of the products and services given by the nearby areas, and the labour force' migration from the

periphery to the centre. These determine an unbalance between the two areas in what the quality of the labour force and the vertical development of industries, eliminating local producers, are concerned. Therefore, one must take into account the transformation of the *polarizing effect* into a *spreading effect*. The first positive effects of spill-over are over the structure and over the level of income from nearby the pole and effects linked to the evolution of the prices of the economic agents.

The socio-economic and demographic evolution may determine the growth of demand for products, necessary for the pole, which is an opportunity for the nearby areas to find a market in the growth pole. Attracting the labour force from the periphery to the pole is a first phenomenon of the spill-over process, determining capital accumulation in the nearby areas [12].

In conclusion, the urban network of Cluj County has some strength. The territorial potential given by the number and distribution of the urban centres, high accessibility, and the presence of the regional pole, Cluj-Napoca may be considered assets. For the moment, the excessive concentration of development in the regional pole to the detriment of the other settlements induces territorial unbalance and a low efficiency at regional level.

3.2. Current aspects of development

Turda and Câmpia Turzii municipalities are situated in the south-eastern part of the county, forming a conurbation at least morphologically, being situated at about 10 km apart from each other. Another feature of these two cities is the industrial character of the economy, both developing gigantic industrial enterprises during the communist period. At the moment, deindustrialization is a present process in these cities, determining socio-economic and territorial transformation.

The period of economic dead end in Turda and in Câmpia Turzii is accentuated by their reduced role in the urban network of Cluj County. Their polarizing functions were taken over by Cluj-Napoca municipality and today only a few communes from nearby enter their polarizing area [13].

This is a problem for the majority of the small and medium towns in Romania and it is emphasised by a series of processes that stop development: decrease of inhabitants, economic dependency on a certain economic sector, with low innovating capacity and performance, poorly qualified labour force, unattractive business environment, etc. [14].

In this situation, we should know the state and the potential directions of development, where Turda and Câmpia Turzii have a balancing role in the urban network of the Cluj County.

3.2.1. The ecological system

The analysis of the ecological system wants to highlight the nature of the relations between human activity and natural support.

Simultaneously, it shows the territorial potential from an ecological perspective, the assets that can be used in the future to overcome some deficiencies and to design a developing direction.

Table 1. The ecological system – sub-parameters and indicators.

THE ECOLOGICAL SYSTEM					
LAND USE AND BIODIVERSITY					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Arable land (% of land)	Average urban county: 37	54	58	3.5	3
Green space (sqm/resident)	Bill 351/2001: minimum 15	31	21	5	5
Protected areas (no.)	Average urban county: 2	5	0	5	0
<i>Total value</i>				4.5	2.5
CONSUMPTION AND WASTE					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Water use (l/capita/day)	National urban average: 127.3	134.7	155.1	4.5	4
Gas consumption (m3/capita/year)	National average: 413	426	441	5	4.5
Waste production (kg/person/year)	National average: 382	330.1	612.3	5	3
<i>Total value</i>				5	4
RECYCLED MATERIAL RESOURCES					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Recycled waste (% of total)	National average: 1.1	0.05	2.8	0	5
Wastewater collection system (%)	Bill 351/2001: minimum 60	53	83	4	5
People connected to the selective waste collection system(% of total)	Average urban county: 45	6.1	43.2	0.5	5
<i>Total value</i>				1.5	5
RISKS					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Contaminated sites (no.)	Average urban county: 3	7	4	2	4
Risk from natural hazards	According to National Environmental Protection Agency	average	average	2.5	2.5
<i>Total value</i>				2	3
TOTAL VALUE				3.5	4

Date source: National Institute of Statistics; National Environmental Protection Agency; Development Strategy of Cluj County 2014-2020.

Land use and natural potential. The way in which the land is being used, gives information about the human pressure over the area, but also information about the natural resources that may improve the quality of life and may bring advantages to the social and to the economic environment. According to this category of indicators, Turda gathered 4.5 points, which represents high territorial potential, with values over the reference points. The lack of some protected areas in the administrative territory of Câmpia Turzii is a weak point of territorial potential.

For the next category of indicators, *consumption and waste*, there are high values of water and natural gas consumption compared to the urban national average. This result indicates a need to rationalise the consumption and also to carry out work to reduce the loss, especially for distributed water. The quantity of municipal waste produced by Câmpia Turzii exceeds the national average and the European one [15]. This fact is because there is no waste management system both at the local and at the county level.

Waste recycling is an essential action for sustainable development. Romania is placed among the last countries from Europe, according to the waste recycling process, as only 1.1% of the collected waste has been recycled [16]. Câmpia Turzii is placed over this value, with a 2.8% recycling degree, and Turda registers a very low value of only 0.05%. It's the same situation when it comes to the sewage connection system, Turda being situated under the minimum requirement for municipalities, of 60%. A major difference was observed for the percentage of the total population connected to the selective collection of waste system. Turda has a low value of 6.1%, and Câmpia Turzii 43.2%, slightly under the average of the county (45%, without other reference date for the Romanian urban area).

Turda and Câmpia Turzii municipalities are situated in a risky area for natural disasters. A major problem for the *risk* category is represented by the contaminated sites of the city areas which are major risk points for inhabitants' physical and mental welfare. Turda municipality was an industrial city that has seven

contaminated sites, most of them as a result of industrial activities during more than 20 years. The number and age of these sites indicate an alarming low implication of all responsible actors capable to solve the problem.

3.2.2. The social system

The quality of the demographic resource is a premise for reaching some social and economic performance needed to build the so called “spatial justice”. The demographic resources are also the cause and effects for all the transformation in a territorial system, and the way they interact with all the other components reflects different evolutionary types and a certain socio-cultural identity.

Socio-demographic aspects in Turda and Câmpia Turzii show a significant decrease of population between 1992 and 2011, compared to the national urban average.

Population’s natural dynamics indicates doubtful values much below the target value. Câmpia Turzii lost its inhabitants resulting negative values of the migratory growth (-6.7‰). Also great disparities are registered for the values of infant mortality and population with higher education degree.

The value of the young population (0-14 years) is placed slightly below the national urban average of 13.2%, even though this value is small compared with the need for a balanced demographic structure.

Table 2. The social system – sub-parameters and indicators.

THE SOCIAL SYSTEM					
SOCIO-DEMOGRAPHIC ASPECTS					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Population growth rate % (1992-2011)	National urban average: -4.9	-25.6	-26.2	1	1
Rate of natural increase (‰)	National urban average: -0.7	-3.8	-2.3	1	1.5
Migration (‰)	National urban average: -2.3	2.1	-6.7	5	1.5
Population ages 0-14 (% of total)	National urban average: 13.2	12.8	13.1	5	5
Age structure: 65 years and over (% of total)	National urban average: 12.0	12.8	11.0	4.5	5
Infant mortality rate (‰)	National urban average: 7.5	10.8	13.3	3.5	3
School drop-out rates (%)	National average: 17.4	12.5	13.1	5	5
Population with university education (% of total)	National average: 21.8	10.2	9.8	2.5	2
<i>Total value</i>				3.5	3
POPULATION AND LABOUR FORCE					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Economic active population (% of total)	National urban average: 44.6	37.8	38.3	4	4.5
Occupied population (% of active population)	National urban average: 39.3	29.7	33.8	4	4.5
Dependency ratio (%)	National urban average: 127.4	236.2	196.1	2.5	3
<i>Total value</i>				3.5	4
SERVICE ACESIBILITY					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Living area (sqm/person)	National urban average: 15.2	13	14.2	4.5	4.5
Physicians (per 1,000 people)	Bill 351/2001: minimum 2.3	1.7	1.4	3.5	3
Hospital beds (per 1,000 people)	Bill 351/2001: minimum 10	6	4	3	2
Accommodation (per 1,000 people)	Bill 351/2001: minimum 15	5	5	1.5	1.5
<i>Total value</i>				3.5	3
CULTURAL IDENTITY AND URBAN AESTHETICS					
Indicator	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Historical heritage*				5	3
Urban aesthetics*				3	3
Local brands*			-	5	1
<i>Total value</i>				4.5	2.5
TOTAL VALUE				4	3

Date source: National Institute of Statistics; Development Strategy of Cluj County 2014-2020, Turda Zonal Centre - Development Concept at a Regional Level 2011-2016; Development Strategy of Câmpia Turzii Municipality 2008-2025.

*supporting details in text.

Population and labour force show low values for the active and occupied population, which determined extremely high values for the economic dependency rate (the proportion between the sum of inactive population and unemployed and the occupied

population). This situation is a result of industrial restructuring which produces major layoffs.

Access to services. For this sub-parameter, all the indicators had values below the target. The cities do not fulfil the minimum values for municipalities for the

number of doctors, or hospital beds, or for accommodation. Though the living area for one person is slightly below the national value, in the last few years the boost of the construction sector increased this value, compared to the '90s.

Cultural identity and urban regeneration. Turda has high touristic and patrimonial potential compared to its size. The History Museum, The Roman Castrum and Turda Salt Mine are elements of historical and cultural identity for Turda Municipality. Nevertheless, many buildings of former industrial enterprises are left in ruins instead of being transformed into museums. Industry was a creating factor for urban identity and, therefore, some buildings should be refurbished and valued. Câmpia Turzii does not have significant historical and patrimonial elements except for some buildings from the 13th century. At present, there are some discussions about opening a

museum. The urban aesthetics shows large differences in both cities. Even though in the central area, some regeneration work has been done, there was none in residential areas, and industrial areas create anaesthetic islands both in Turda and in Câmpia Turzii.

3.2.3. The economic system

The economy in both cities is mainly industrial, industry being here for a long time. The influence of the economic sector over the social and environmental components is reflected through a more or less balanced environment, viable for that space. The interaction between environment and economy should be viable according to the potential and to the characteristic features of the territory and economy-society interaction should eliminate disparities in incomes and in access to services and to information.

Table 3. The economic system – sub-parameters and indicators.

THE ECONOMIC SYSTEM					
ECONOMIC ACTIVITY					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Unemployment (%)	Average urban county: 3.7	4.4	4.8	4	4
Job vacancy rate (‰)	Romania: 0.59	0.3	0.2	2.5	1.5
Employed people in the tertiary sector (%)	Average urban county: 59.1	50.7	37.5	4.5	3
Employed people in industry (%)	Average urban county: 35.2	37.7	51.2	4.5	3.5
Employed people in agriculture (%)	Average urban county: 2.2	3.8	5.7	3	2
<i>Total value</i>				3.5	3
ECONOMIC STRUCTURE					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Economic active enterprises (per 1,000 inhabitants)	Average urban county: 34.9	63.3	10.9	5	1.5
Average number of employees (per 1,000 economic active people)	Average urban county: 563	462	568	4	5
Turnover (% of total)	Average urban county: 16.7	4.2	3	1.5	1
<i>Total value</i>				3.5	2.5
COMMUNICATION AND ACCESSIBILITY					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Rail and road accessibility	Railway station. Highway. E-road			4	5
Cable telephony subscriptions %	Average urban county: 21.7	20.9	12.1	4.5	3
Internet access (% of all households)	National urban average: 61	45	42	3.5	3.5
Commuting (%)	Average urban county: 6.7	10.7	7.8	3	4
<i>Total value</i>				4	3.5
GOUVERNANCE					
Indicators	Targets/Comparisons	Turda	Câmpia Turzii	Value (1 - 5)	
Local election participation (%)	National urban average: 51	45.9	49.6	4.5	5
Commitment to sustainable development	Online Development Strategy			5	5
City Hall website	Quality of information			4	3
<i>Total value</i>				4.5	4.5
TOTAL VALUE				4	3.5

Date source: National Institute of Statistics; Development Strategy of Cluj County 2014-2020, Turda Zonal Centre- Development Concept at a Regional Level 2011-2016; Development Strategy of Câmpia Turzii Municipality 2008-2025; <http://www.ajofmcj.ro/>; <http://www.primariaturda.ro/>; <http://www.campiaturzii.ro/>.

The economic structure reflects an average development of this parameter compared to the urban average in the county. This big difference is given by the high values of the analysed indicators for Cluj-Napoca municipality which determine striking economic disparities especially for turnover, owning 87% of the total turnover and over 90% of investments. Câmpia

Turzii municipality has a very small value for the number of active people out of 1,000 inhabitants, practically the lowest value in the entire county.

This is because of the fact that gigantic industrial enterprises predominate, like Mechel S.A. which owns about 50% of the total number of employees.

Economic activity. One may notice for this sub-parameter that industry predominates in economy especially in Câmpia Turzii which has 51.3 % of its population occupied in the industrial sector. This value is over the urban value in the county and a lot over the national average of 20.7% since 2011. Compared to the average of the county, a high value characterises population occupied in agriculture. This is because of the weak capacity of the third sector to take over the discharged population of the industrial sector. For the job vacancy rate, Turda and Câmpia Turzii are both under the national urban average of 0.59%.

Communication and accessibility. Turda and Câmpia Turzii municipalities have an advantageous position potential, having access to E60 Borş - Oradea - Cluj-Napoca – Turda – Târgu Mureş –Braşov –Ploieşti – Bucureşti – Urziceni – Slobozia – Constanţa. Also, since 2009 the A3 highway was put in circulation between Gilău and Turda and since 2010 between Gilău and Câmpia Turzii. A weakness is represented by the lack of railway infrastructure in Turda. Below target values are those for internet access of households, but also for commuting to other localities. Both cities exceed the urban value of 6.7% in the county, and thus, at least in theory, the population from these two cities commute to Cluj-Napoca especially for medical, educational, and recreational services.

Governance. Available data for analysing this parameter indicated a relatively good involvement of population and of local authorities in the progress of the urban development planning process. The lack of some more significant data, like public-private partnerships, NGO's or public opinion for some projects, make this parameter not so relevant in this formula. It is known the fact that governance is a less important issue in Romania because of the vicious management of urban planning and of public involvement.

3.3. Favourability of development and territorial potential

The purpose of this study was to determine the development degree in the national urban network of two industrial cities: Turda and Câmpia Turzii. Although a Sustainable Value Map was used as an analysis instrument, the measurement of the sustainability degree is an ideal objective first because of the lack of some universal targets for the sustainability feature, but also because of the lack of real indicators for the local level. Therefore, the Sustainable Value Map reflects both development degrees related to an average and presents certain particularities and connections between the three analysed components.

Turda municipality registers a total value of development of 4 points and Câmpia Turzii a value of 3.5. These values indicate below the average

development, but with growing potential of the socio-economic degree due to significant territorial potential.

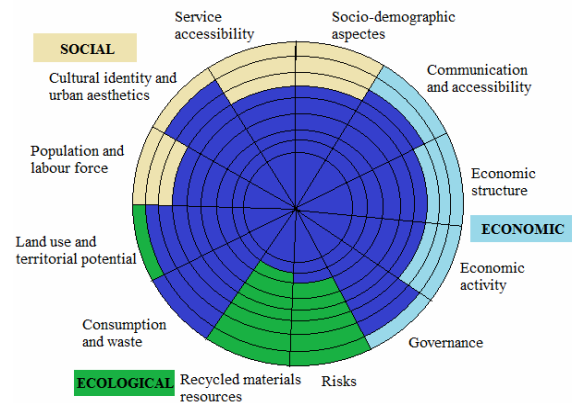


Fig. 2. Turda – Sustainable Value Map.

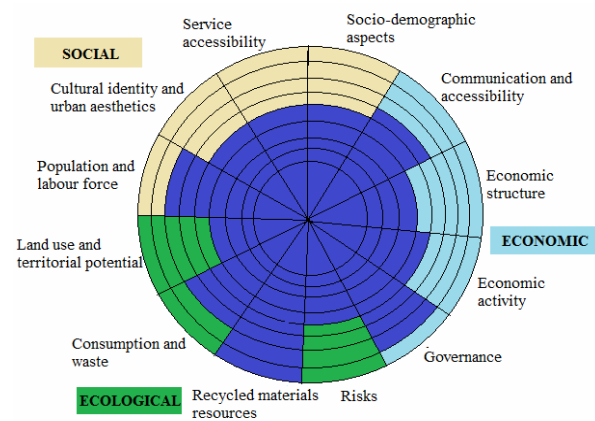


Fig. 3. Câmpia Turzii – Sustainable Value Map.

a). *The territorial quality* reflects the state of the urban system, as a result of the interactions between the environment and the social component. A first asset of this feature is a result of the geographical position, with important natural resources which offer the community not only a diverse environment, but also multiple possibilities to spend their spare time. This way we mention the possibility to expand the green space in these cities, some natural resources which are exploited for the population's welfare (Salted Baths in Turda, Turda Salt Mine), but also the existence of some areas for hiking, climbing and for camping nearby their administrative territory (The Tureni Gorges and The Turda Gorges). For Turda, another territorial asset is the large number of natural protected areas; two of them have national importance [17]. The presence of natural areas of European importance indicates the community's involvement when it comes to protecting the natural patrimony. The territorial quality of Turda city is emphasised by the responsible consumption of resources, while in Câmpia Turzii the responsibility of the community is for collecting and recycling municipal waste (the city has a modern waste sorting station).

b). *The territorial efficiency* of the two cities is given by their geographical position in an intense accessibility area and in the settlement system of Cluj County. The natural basis offers remarkable assets to economic activities like the presence of some natural exploitable resources, the geographical landscapes and the position in a geographical contact area as a bridge between the areas which it separates and for which is a gravity axis. The exploitation of touristic resources contributes considerably to the economic recovery of Turda City and Turda Salt Mine became a local brand (Turda-Salt Mine City), attracting an important number of tourists. Still, the environmental features were the main factor for both cities for their continuous urbanization during the last century.

c). *Territorial identity* is a result of the way in which the community used the geographical space to design a certain pattern of development. Being industrial cities (Turda – building materials industry, Câmpia Turzii – iron industry), they have certain tradition in this field, for which, at the moment, a reindustrialization of the area is considered. In this context, due to the existence of certain support for industrial development, their position in a maximum accessibility area and their vicinity to Cluj-Napoca increases significantly their potential to attract investors and for developing industrial clusters of innovation. It is significant the local authorities' involvement in consolidating two industrial parks on the administrative territories of these cities: REIF is now being built and will have 44 ha in Câmpia Turzii and the biggest logistic park in the county, and Kaufland Logistic Centre in Turda which has 40 ha. The will is that these industrial and logistical parks take over the workers that are going to be laid off after closing other enterprises. The urban microregion formed by these cities gives identity and significant territorial potential by increasing cooperation relations in order to integrate into an efficient urban system. Positive are also some renovating and rehabilitation actions in the central area. Turda city has significant historical patrimony (The History Museum and The Roman Castrum Potaissa).

4. CONCLUSIONS

After analysing the development degree of the urban agglomeration Turda-Câmpia Turzii, three major conclusions have been drawn and they may set a certain developing direction. First, both cities are *developed below the national and county average* and this was determined by the restructuring of the industrial sector, which slowed down the adaptation to the economic demands of the new world. Secondly, *distance, division and concentration determined a hypertrophy* of the urban network in the county, through the existence of big development differences between large and medium cities, between Cluj-Napoca and the other cities of the

county. Therefore, it can be mentioned a positive aspect for the evolution of the agglomeration, given by territorial potential, which indicates a *very favourable position* in a space of maximum accessibility, with access to all main natural resources and not only.

To gain a new position in the settlement system, three major objectives appear for the Turda-Câmpia Turzii industrial concentration. These objectives represent *key-actions* for territorial cohesion. *Intensifying cooperation* relations between the industrial concentration Turda-Câmpia Turzii and the regional growth pole of Cluj-Napoca, intensifying cooperation inside the conurbation, and intensifying cooperation between the two cities and the rural areas nearby. Another key-action is represented by the *lack of the preponderant concentration* of development in Cluj-Napoca municipality through an adequate management of the industrial restructuring process and the attraction of investors in Turda and Câmpia Turzii. Moreover, *recovering and intensifying the connections* between the settlements by elaborating some mutual development strategies in communications, access to services, and in transport.

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