

Between objective and subjective in the sustainable development and the identification of crisis mitigation solutions

Mihaela MUREȘAN

“Dimitrie Cantemir” Christian University, Bucharest, Romania
mihaela.muresan@yahoo.com

Emilia GOGU

“Dimitrie Cantemir” Christian University, Bucharest, Romania
arina_emilia@yahoo.com

Abstract. *The paper presents an objective perspective on the sustainable development in Romania, as it is illustrated by the statistical data. The analysis of the main indicators related to the human development, the environment and the socio-economic issues reveals the position of our country within the European space. Besides the objective perspective, the citizens' perspective has been also considered. The survey organised has identified the general citizens' views related to the barriers and opportunities concerning the sustainable development and possible crisis mitigation solutions. The results of the pilot survey demonstrate the citizens' commitment in finding solutions for the issues that affect their lives. The article emphasizes the citizens' potential role in finding solutions in complex and difficult situations.*

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JEL Classification: O210, O410.

REL Classification: 8B, 8I, 16E, 16G.

1. Perspectives on the sustainable development

The actual challenges concerning the sustainable development lead to the design of a wide range of models and set of indicators characterizing the sustainable development and facilitating the evaluation of the sustainable development, according to specific objectives (standards, targets).

1.1. Main sustainable development models

There are two main trends in the actual approaches: the development of a set of indicators grouped on main themes (socio-economic development, environment protection and human development) and the development of composite indexes which integrates more indicators. A short list of the most used indicators for the sustainability measurement is provided by the Table 1.

Table 1. *Relevant sustainable indicators*

Type of index	Name of indicators	Components	Implementation
Indicators for monitoring the European sustainable development	Sustainable Development Indicators (10 Themes, 3 levels)	Theme 1: Socio-Economic Development Theme 2: Sustainable Consumption and Production Theme 3: Social Inclusion Theme 4: Demographic Changes Theme 5: Public Health Theme 6: Climate Change and Energy Theme 7: Sustainable Transport Theme 8: Natural Resources Theme 9: Global Partnership Theme 10: Good Governance	EUROSTAT National Institute for Statistics (Theme 1–8) (Eurostat, 2012; ***, 2011a, ***, 2010c)
Composite index for monitoring Lisbon strategy	Economic Lisbon Indicator	1. Gross Domestic Product (GDP) per capita 2. Employment rate age15-64 years 3. Employment rate age 55-64 years 4. Research and development expenditure as percentage from GDP 5. Long term unemployment (% of total unemployment) 6. Rate of young people (age 20-24 years) who have attended at least the upper secondary level of education	European Commission (***, 2011)
Composite index for the innovation	Regional Innovation Performance Index (RIPI)	1. Innovation engines 2. Knowledge creation 3. Innovation and entrepreneurship 4. Applications 5. Intellectual Property	European Commission (Eurostat, 2012)
Sustainable development indicators	Sustainable Society Index	1. Personal development 2. Clean environment 3. Well-balanced society 4. Sustainable use of resources 5. Sustainable world	Geurt van de Kerk (Van de Kerk, 2010, pp. 228-242)
Composite index for the human development	Human Development Index (HDI) Poverty Index (PI)	Life expectancy Education (literacy index and educational attainment) PIB per capita	United Nations Development Programme (UNDP, 2011)
Composite index for the environment	Environmental Performance Index (EPI) - 6 categories, 16 indicators	Environmental Health Biodiversity and Habitat Water quality Air quality Climate changes Productive Resource Management	Columbia University and Yale University, USA (***, 2010a)

Source: Synthesis of (***, 2011; ***, 2011a; Eurostat, 2012; UNDP, 2011; ***, 2010a; ***, 2010d; Van de Kerk, 2010).

The list of indicators is not an exhaustive presentation; it intends only to emphasize the most recent indicators developed for the assessment of the sustainable development. The European Union has developed a set of indicators for monitoring the sustainable development. The themes follow a general gradient from the economic, to the social, and then to the environmental and institutional dimensions. They are further divided into sub-themes to organize the set in a way that reflects the operational objectives and actions of the sustainable development strategy (***, 2011). The set of indicators for the sustainable development assessment is integrated also in our statistical system of indicators and are accessible on the portal of the National Institute for Statistics (theme 1 to 8).

1.2 Heuristic model for the assessment of the sustainable development

The analysis of the various sustainable development indexes and models has been carried out within the framework of a wide research project financed through the national research fund. Thus, the research revealed the utility of a comparative model in order to assess the various sustainable development indexes in relation with certain standards and values used as comparison terms. The proposed heuristic model enables the positioning of a region and/or country related to international standards, level of indicators within the European space or various targets to be achieved (Table 2).

Table 2. Algorithm for the specific indicators of the model

No.	Formula	Significance	Explanation
1	$IS_i = \frac{V_i}{P_i}$	i = year, varying from 1 to n k = domain, varying from 1 to m IS _{ki} = specific indicator k in the year i V _i = specific value of the factor k in the year i P _i = population in the year i	Value of the specific indicator per capita
2	- maximization: $I_{ki} = \frac{IS_{ki} - I_{k_{min}}}{I_{k_{max}} - I_{k_{min}}}$ - minimization: $I_{ki} = \frac{I_{k_{max}} - IS_{ki}}{I_{k_{max}} - I_{k_{min}}}$	IS _{ki} = specific indicator k in the year i I _{ki} = index for the specific indicator k in the year i I _{k_min} = minimum value (related to the global/EU development) of the specific indicator k I _{k_max} = maximum value (related to the global/EU development) of the specific indicator k	Comparative index to indicate the position of the indicator at a global/ European scale
3	$I_{Di} = \frac{(\sum_{k=1}^n I_{ki} * \alpha_k)}{\sum_{k=1}^n \alpha_k}$	I _{Di} = value of the composite index specific to the domain D in the year i I _{ki} = index for the specific indicator k in the year i α _k = the weight for each specific indicator in the composite index for the domain D	Composite indicator for a specific domain

Source: Own research/processing.

For the calculation of the specific index, for the maximization is used the following formula:

$$I_{ki} = \frac{IS_{ki} - I_{k_{min}}}{I_{k_{max}} - I_{k_{min}}}$$

and for the minimization is used the formula:

$$I_{ki} = \frac{I_{k_{max}} - IS_{ki}}{I_{k_{max}} - I_{k_{min}}}$$

where:

IS_{ki} = specific indicator k in the year i;

I_{ki} = specific index k in the year i;

I_{k_min} = min value (related to the global/European values) for the specific indicator k;

I_{k_max} = max/average value (related to the global/European values) for the specific indicator k.

The average is used for aggregating the specific indicators. According to the statistical theoretical and practical approach, the geometrical average ($\sqrt[n]{I_1 \cdot I_2 \cdot \dots \cdot I_n}$) is indicated, but due to the risk of null values, the geometrical average is not relevant for the calculation of the composite indexes. In this case, considering the mentioned aspects, the composite indexes will be calculated using the simple or weighted arithmetic average, enabling us to assign a certain importance through the specific weights provided (third line of the Table 2). Thus, the composite index represents the adjusted average of the transformed indicators (scale 0 to 1 – Comparing index for a positioning on a global/European scale).

The project has proposed the use of a set of specific indicators for the fundamentation of the sustainable strategy, at the regional or country level, for a better positioning of the region towards standards or targets. In this sense, various analyses have been performed based on these indicators for Bucharest-Ilfov region or, in the case data have not been available, the indicators have been illustrated at the national level. The statistical data correspond to the year 2009 and have been collected from the specific statistical data portals of the European Union (Eurostat, 2012; 2010b) and of the National Institute for Statistics (National Institute for Statistics, 2010; 2010c).

2. Objective assessment of the sustainable development

The model is structured according to the main sustainable development axes: personal development, social development, economic development and protection of the natural environment. (1).

$$IDRS = \frac{IDP + IMN + IMS + IDE}{4} \quad (1)$$

where:

IDRS = sustainable development index;

IDP = personal development index;

IMN = natural environment index;

IMS = social environment index;

IDE = economic development index.

Each domain index is calculated by integrating the specific domain indicators, according to the scheme and algorithm presented in the Table 2. A synthesis of the structure for each index on the four domains is presented in the following sections.

2.1. Personal development index - IDP

The personal development index (2) stands for a composite index enabling a synthetic view on the personal development for a region or a country. The index measures and compares opportunities related to a long and healthy life, education, free time and income:

$$IDP = (ISV + IDG + IRLI + IVR + \dots) / (\text{no. of calculated indexes}) \quad (2)$$

where:

ISV = life expectancy index;

IDG = gender development index;

IRLI = index of the free and working time;

IVR = index of the real income.

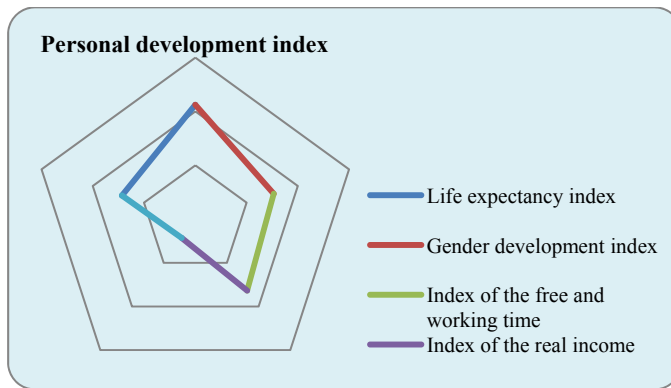
The calculation according to the algorithm takes into consideration as basis for comparison the European Union countries. The data show a major discrepancy between the real average income in our country and the same data in the European space, our country being at the minimum European level. In this case, the composite index of the personal development could be calculated (2), according to the results obtained by each index, as it is revealed in the Table 3. The results show an ascending trend of this index during the first decade of the third millennium, but remains at a low level compared to the European level (less than 0.3 in 2009), as it is illustrated in the Table 3.

Table 3. Main indexes of the personal development in Romania compared to the European Union

Indicators	Romania	Min. UE	Max. UE	IDP
Life expectancy index	73.40	64.90	84.80	0.425
Gender development index	0.57	0.47	0.84	0.306
Index of the free and working time	38.61	30.75	42.43	0.327
Index of the real income	5.65	3.79	253.11	0.086
Index of the personal development				0.286

Source: Own calculation.

A clear presentation of the positioning of the personal development index compared with the minimum and maximum values of the European space is illustrated in the Figure 1.

Figure 1. Personal development index

Source: Own calculation.

2.2. Natural environment index – IMN

The natural environment index shows the status of the natural environment, evaluating the quality of the air, water and soil (formula 3), vital elements contributing to ensure a healthy life environment for the inhabitants of the region, maintaining in the same time the appropriate life conditions for the next generations.

$$IMN = \frac{ICA + ICAP + ICT}{3} \quad (3)$$

where:

ICA = air quality index;

ICAP = water quality index;

ICT = soil quality index.

This generic approach could be customized taking into consideration additional elements, such as noise, waste management etc. It is important also to mention, that, due to the fact that the research took place in Bucharest-Ilfov region, the soil quality is not a major issue, meanwhile the green spaces is a critical factor for the natural environment. From this point of view, the natural environment index is calculated using two different (formulas: 3.1 and 3.2), emphasizing the main characteristics of the urban and non-urban space.

$$IMN_i = \frac{ICA + ICAP + ISPV + IZ}{4} \text{ urban (Bucharest)} \quad (3.1)$$

where:

ICA = air quality index;

ICAP = water quality index;

ISPV = green space index;

IZ = noise index.

$$IMN_i = \frac{ICA + ICAP + ICT + ISPV + IZ}{5} \text{ non-urban} \quad (3.2)$$

where:

ICA = air quality index;

ICAP = water quality index;

ICT = soil quality index;

ISPV = green space index;

IZ = noise index.

According to the composite index of the natural environment, the worse situation has been noticed related to the green space and the waste storage. Regarding the water and air quality, Romania has a relative good situation compared with the European Union. While indicators related to dust in the air and the amount of nitrogen were much higher than the permissible average, the overall air quality is good, as shown in Table 4.

Table 4. Air quality indexes

Indicators	Romania	Min. UE	Max. UE	ICA
Nitrogen Dioxid	49.83	0	30	-0.661
Dust in suspension	49.67	0	20	-1.4835
Greenhouse gas CO2	6060	4308	24994	0.94
Ozone emissions	0.271	0.002	2217	0.878
Quality air emissions				0.797

Source: Own calculation based on Eurostat data.

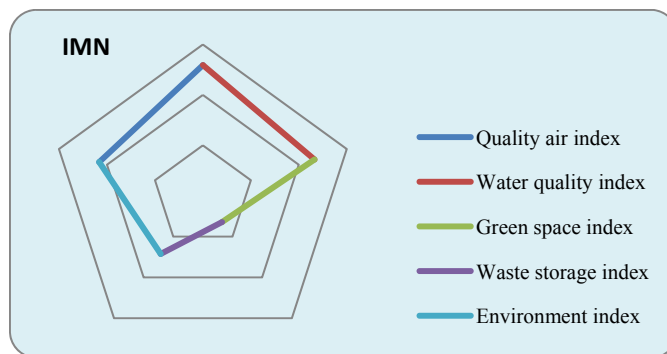
The values of the environment index have been presented in the Table 5 and the Figure 2.

Table 5. *Environment index*

Indexes	IMN
Quality air index	0,797
Water quality index	0,664
Green space index	-0,177
Waste storage index	0,212
Environment index	0,581

Source: Own calculation.

Figure 2. *Natural Environment Index*



Source: Own calculation.

2.3. Social environment index - IMS

The social environment index is a composite index characterising the social environment for a region/local area, related to the general life conditions, health, education, employment conditions, unemployment and poverty risks specific to the region analysed:

$$IMS = (ICL+ISVS+ICS+IE+ISS+IROP+ISL+IS+...)/(\text{no. of calculated indexes}) \quad (4)$$

where:

IMS = social environment index;

ICL = general habitation conditions index;

ISVS = healthy life expectancy index;

ICS = social expenditure index;

IE = education index;

ISS = health system index;

IROP = employment rate index;

ISL = long unemployment index;

IS = poverty exposure risk index.

In a simplified version, introduced because there were not sufficient data for testing the model, the social environment index is calculated according the formula (4.1):

$$IMS = \frac{I_{CS} + I_{ROP} + I_{SOML} + I_{RS}}{4} \quad (4.1)$$

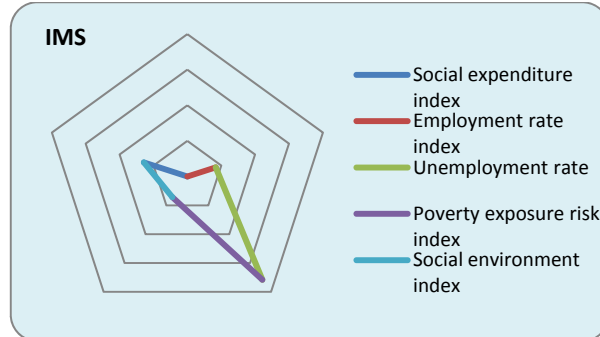
As it is obvious, according to the construction of the social environment index, the calculation of the index is based on indexes with positive and negative indexes, as the Table 6 and the Figure 3 illustrate the composite index values as it is presented in the formula (4.1).

Table 6. Social Environment Index

Indexes	Romania	Min. UE	Max. UE	IMS
Social expenditure index	1363.000	1363.000	13638.000	0.000
Employment rate index	58.600	54.900	77.000	0.167
Unemployment rate	2.200	0.500	6.500	0.717
Poverty exposure risk index	23.600	11.000	25.700	0.143
Social environment index				0.257

Source: Own calculation based on Eurostat data.

Figure 3. Social environment index positioning



Source: Own calculation.

2.4. Economic development index - IDE

The economic development index integrates the main economic aspects of the region, aiming at a balanced development and at maintaining the premises of the future balanced development:

$$IDE = (IPIB + IRDE + IW + IEXP + ICE + IDI + IDF + \dots) / (\text{no. of indexes}) \quad (5)$$

where:

IPIB = economic results index;

IRDE = economic dependency rate;

IW = productivity rate;
 IEXP = export index;
 ICE = energy consumption index;
 IDI = innovation and development index;
 IDF = financial index.

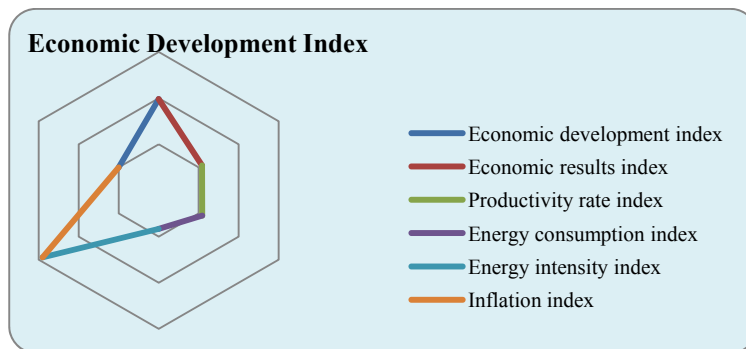
Due to the lack of statistical data for the Bucharest-Ilfov region, the tests for the economic index have been carried out with data at the country level, taking into consideration the indexes related to the GDP per capita (IPIB), the productivity, energy consumption and the inflation. The data related to the economic results are presented in the Table 7, illustrating a disadvantaged situation of our country within the European Union, the indexes indicating values near the European minimum values. In addition, the value of the index is decreasing beginning with 2008. The values for the indexes integrated in the economic environment index are presented in the Table 7 and in the Figure 4.

Table 7. *Economic development index*

Indexes	IDE
Economic results index	0.017
Productivity rate index	0.018
Energy consumption index	-0.034
Energy intensity index	0.381
Inflation index	0.000
Economic development index	0.196

Source: Own calculation.

Figure 4. *Economic Development Index positioning*



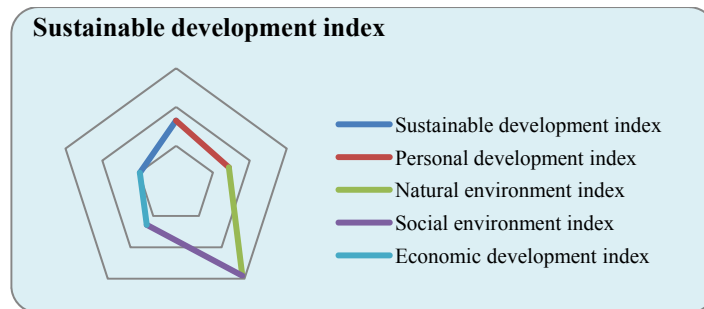
Source: Own calculation.

2.5. Sustainable development index

Using the data calculated for the personal development, the natural, social and economic environments, and the index for measuring the sustainable development position has been calculated. For calculating the sustainable development index, the values obtained at the national level have been considered as values for the

Bucharest-Ilfov region. Thus, the value for the composite index is 0.33, which does not demonstrate a favorable position of our country within the European space (Figure 5).

Figure 5. *Sustainable development index*



Source: Own calculation.

The analysis has demonstrated the weak and strong points, where a significant discrepancy related to the European Union member states has been noticed, i.e. the economic development. The population's real income, the social protection expenditures represent other elements where we have significant gaps compared with the European space. For a complete and realistic image on the regional development, besides the data from the statistics analysis, revealing the most sensible points, the research team has initiated pilot surveys for the identification of the regional actors' perception on the personal development, on the quality of the natural and of the socio-economic environment.

3. Subjective perspective on the sustainable development

Besides the quantitative and qualitative analysis based on the proposed model, it is necessary to have a complementary qualitative view, based on the regional actors' opinions. For this purpose, a questionnaire applied in a pilot survey has been developed in order to identify the Bucharest-Ilfov citizens' opinion. Raw data obtained from the questionnaire, representing information that can be integrated in regional strategy development phase, with secondary data resulting from the application of the sustainable development models. The specific approach of the project enables the regional stakeholders' access to various data; so that the regional actors are informed and they could carry out individual or group analysis for a better understanding of the development trends, and their opinions rely on this information.

The pilot survey used a similar methodological approach as the first survey, based on online questionnaires. Finally, there were 154 respondents, with a wide

distribution related to the age and social categories. The pilot survey focused on identifying the regional actors' opinion on:

- the general situation of the region;
- the perception of the personal life;
- the perception of the quality of the natural environment;
- the perception of the social environment;
- the perception of the economic environment.

The sample's area involved in the survey referred to the Bucharest area, including the metropolitan area of the capital, the participants being randomly selected, with only the requirement that the participants should be residents in the Bucharest-Ilfov region and having over 18 years. The survey has been carried out in the first quarter 2010. The questionnaires have been structured on five sections: the first section included the respondent's identification data and questions regarding the perception of the general situation in the Bucharest and the metropolitan area. The other sections have been structured according to the four axes of the sustainable development: natural environment, social and economic environment and the personal development. The majority of the questions are clearly formulated and closed, without ambiguities or possible interpretations.

A synthesis of the main elements concerning the sample structure illustrates that:

- according to sex variable, the sample distribution included 66% women and 34% men;
- according to education level, the sample included 38% persons with upper secondary level, 47% graduated persons and 15% persons with post-graduated studies;
- regarding the activity domain, the sample structure is illustrated in the Table 8.

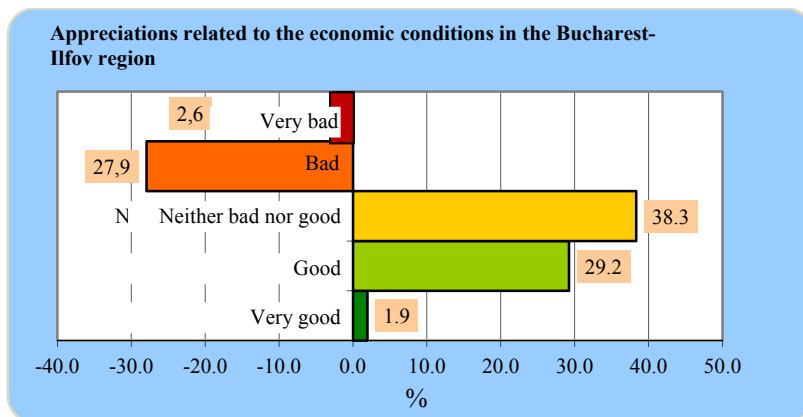
Table 8. *Sample structure related to the activity domain*

	Category	Persons	Rate %
a.	Public administration	33	21.4
b.	Social domain	5	3.2
c.	Political domain	4	2.6
d.	Educational domain	13	8.4
e.	Research	4	2.6
f.	Judicial domain	3	1.9
g.	Cultural domain	5	3.2
h.	Health domain	7	4.5
i.	Transports	5	3.2
j.	Constructions	5	3.2
k.	Trade	16	10.4
l.	Services	19	12.3
m.	Industry	13	8.4
n.	Other domains	32	14.7
	TOTAL	154	100,0

Source: Own calculation.

The general opinion related to the economic situation of the region reveals that the majority appreciates that the situation is good (29.22%) or neither bad nor good (38.31%), and more than 30% consider that the conditions in the region are not good, as it is presented in the Figure 6.

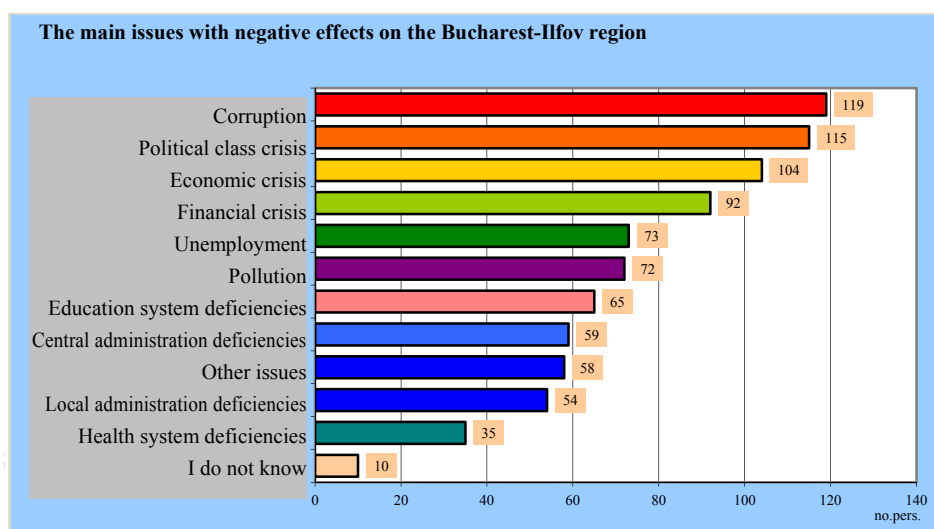
Figure 6. Satisfaction level related to the economic situation



Source: Own calculation.

Regarding the causes generating the actual situation in the region, the participants indicated as main negative factor the corruption (77.27% of the respondents), as it is illustrated in the Figure 7.

Figure 7. Main causes of the actual situation in the Bucharest-Ilfov region



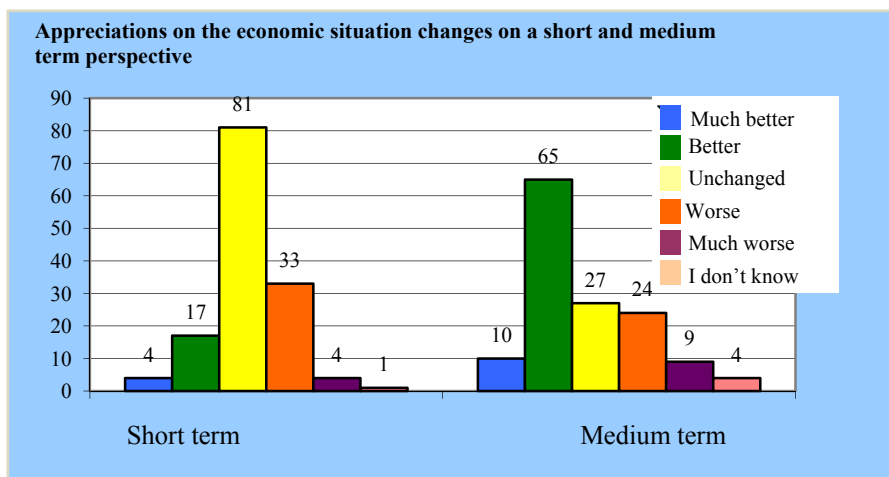
Source: Own calculation.

Although the economic situation in the region Bucharest-Ilfov is not considered a good one, respondents mention the corruption and the political crisis as main causes for the actual situation, with greater negative effects than the economic crisis.

Another relevant question referred to the chance of changing the actual short and long term situation.

The respondents' perception revealed that on short term there are not important chances to change in a better way the existent situation. On a long term horizon, the perspectives are more optimistic, as presented in the Figure 8.

Figure 8. *Appreciations on the economic evolution on the short and medium term*

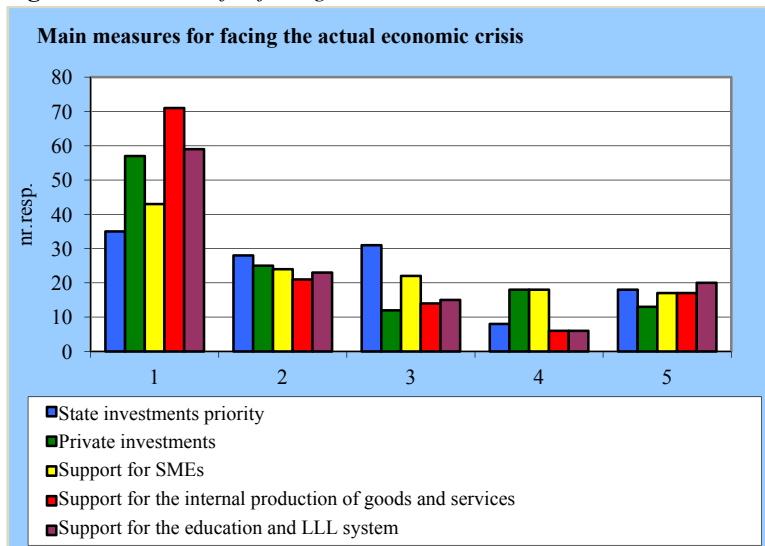


Source: Own calculation.

An interesting result has been obtained related to the solutions, which the participants to the survey consider useful.

The majority of the respondents considers that the improvement of the actual situation could be obtained through a mix of measures, which could stimulate the economic activity, among them the development of the internal production of goods and services, the investments in the development of the education system and long life learning represent priorities for the amelioration of the actual economic situation (Figure 9). Both categories of Investments, i.e. private and state are considered the main development factors, along with sustainable state support through appropriate policy measures.

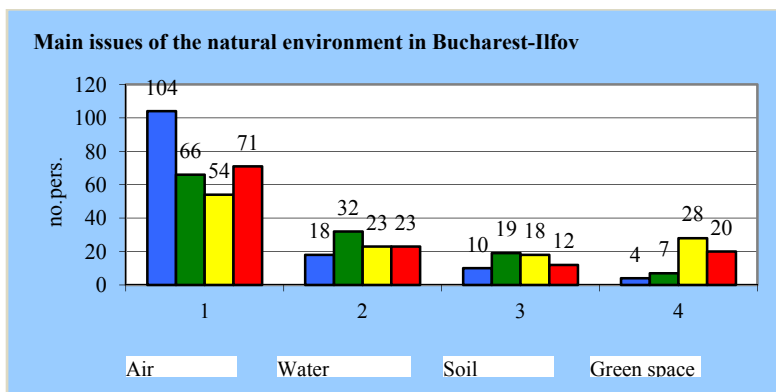
Figure 9. Measures for facing the economic crisis



Source: Own calculation.

The section related to the natural environment revealed that the participants’ most important issue stands for the air quality, and then the water quality and the green space surfaces (Figure 10).

Figure 10. Main issues related to the natural environment



Source: Own calculation.

Simultaneously the respondents highlight a depreciation of the natural environment in the Bucharest-Ilfov region, as the answers presented in the Table 9 have demonstrated.

Table 9. Natural environment pollution in the Bucharest-Ilfov region

Code	Options related to the environment pollution	Bucharest	Ilfov	Rate %	
				Bucharest	Ilfov
a.	More pollution than 5-10 years ago	125	56	81.17	36.36
b.	As polluted as 5 - 10 years ago	9	8	5.84	5.19
c.	Less polluted than 5 -10 years ago	1	2	0.65	1.31
	Non answer	19	88	12.34	57.14
	Total	154	154	100,0	100,0

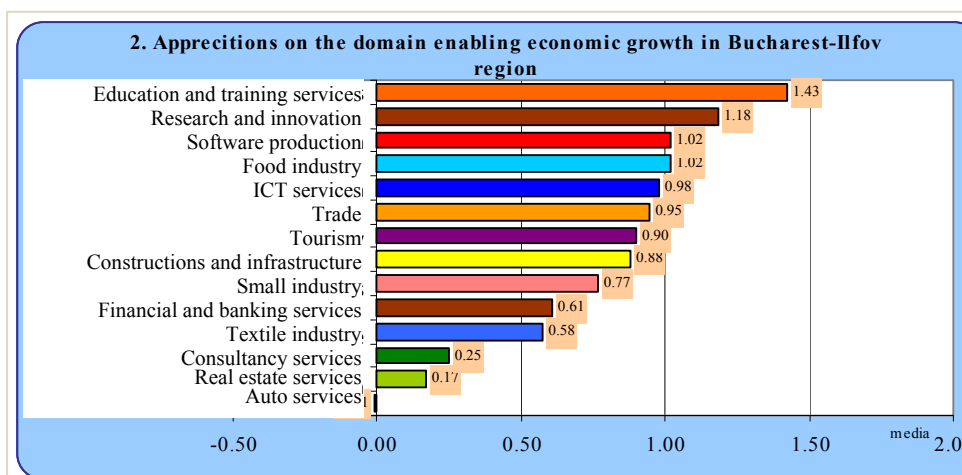
Source: Own calculation.

The respondents have appreciated the quality of the water, air and soil with medium values, i.e. on a scale from 1 to 10, the average for water represented 5.02, for air 5.07, and for the soil 5.12. Regarding the quality of the air and especially the dust, the people have noticed the existing issues, the mark being only 3.98.

These answers could be correlated with the results of the statistics analysis for the water, air soil and green space quality, the concordance between citizens' opinions and the statistic data, i.e. the respondents highlighted the decline of the environment quality and the identification of the air quality as the major environmental issue.

These issues have been emphasized also by the data analysed. The citizens' opinions are in line with the results of the analysis based on the proposed model.

Taking into consideration the economic situation of the Bucharest-Ilfov region, the majority of the sample appreciated that its status is stationary (55%). 20% considered that it is an economic growth and 25% appreciated that it is an economic decline. Using a scale from -2 to +2, a hierarchy of the domains which could generate economic growth is illustrated in the Figure 11.

Figure 11. Main economic growth factors

Source: Own calculation.

Besides this evaluation of the economic situation and of the main aspects contributing to the economic growth, the respondents have identified also the obstacles in the normal development of the economic processes. The main difficulties in the business area have been identified and a hierarchy of the negative factors have been drawn up using a scale from 1 (very important obstacles) to 10 (very small obstacles). The synthesis of the results is presented in the Table 10. As it is obvious from the table, the main obstacle for the business processes is the corruption, and after that the bureaucracy and the excessive taxation. The participants in the survey demonstrate a coherent approach, because both evaluation of the general situation of the region, and of the causes blocking the business area identified the corruption as main obstacle for the development at the micro- and macro-economic level.

In addition, at the micro level, there are also other obstacles blocking the business area (funding difficulties, market instability, lack of qualified work force etc.).

Table 10. *Obstacles for the business processes*

No.	Obstacles	Average
1	Corruption	2.23
2	Excessive bureaucracy	2.44
3	Excessive taxation	2.73
4	Lack of funding access	2.95
5	Lack of stable markets	3.44
6	Lack of local tax facilities	3.49
7	The limited purchase power of the market	3.78
8	Lack of the qualified workforce	4.31
9	Lack of production spaces	5.21
10	Lack of local work force	5.60
11	Lack of commercial spaces	5.66

Source: Own calculation.

A very consistent part of the questionnaire (16 questions) focused on the evaluation of the respondents' satisfaction level towards their personal life. According to the previously highlighted economic situation, the respondents mentioned that also the personal income is reduced, the majority having an income per person under 1000 Lei/person (27.27%) or equal to 1000 Lei/person (40.91%). Only 9.74% of the participants have the income above 3000 lei/person. In this particular context, the respondents declare that their income is under their current needs or just as the limit to cover these needs, as it is illustrated in the Table 11.

Table 11. *The level of the income related to a decent life*

Code	Level of the income	Rate %
a.	Not sufficient for the basic needs	22.73
b.	Sufficient only for the basic needs	38.31
c.	Sufficient for a decent life	35.06
d.	Satisfactory for our wishes (I can afford to have what I will)	3.90

Source: Own calculation.

The economic crisis effects are reflected in the personal life, having a negative influence on the income and the life security, as it is illustrated in the Table 12. The table presents the participants' opinion regarding the way the crisis affected their lives, using a scale from 1 (the strongest effect) to 5 (the weakest effect).

Table 12. *Economic crisis effects on the personal life*

Code	Issues	1	2	3	4	5	Average
a.	Reducing the income	77	21	15	10	6	1.81
b.	Increasing the unsecurity	56	21	29	8	11	2.18
c.	Decreasing the life standard	45	33	31	11	5	2.18
d.	Increasing the risk of illness	23	25	22	26	26	3.06
e.	Destroying the family	16	4	9	11	80	4.13

Source: Own calculation.

Though the incomes are directly affected by the crisis and do not support a wealthy life, the number of working hours is greater than the official one, which demonstrates the fact that the employees are overloaded or that they need to work supplementary for an additional income. The Table 13 illustrates the fact that the majority of the participants are working more than 8 hours daily, and in the same time the relaxing time is reduced. This conclusion is not in line with the statistic data. This discrepancy has as main cause the fact that there are no specific records concerning the additional working time in the same working place or in a different one.

Table 13. *The working and relaxing hours*

Code	Number of hours at the working place (daily)	Rate %	Number of hours – relaxing time	Rate %
a.	under 6 hours	11.69	under 1 hour	18.83
b.	6-8 hours	27.92	1-3 hours	48.7
c.	8-10 hours	41.56	over 3 hours	32.47
d.	over 10 hours	18.83		

Source: Own calculation.

While, from the point of view of their income and the relaxing time, the respondents have not a particular satisfaction reason, from the perspective of their personal life, they declare that they are in general content (27%) and very content (49%) regarding their families, their homes (47% - are content and 19% - very content) and even their professions (50% - content and 14.4% - very content). Thus, the general level of satisfaction on the personal life, the participants declared their general satisfaction on their life (59.09%), and 10.39% mentioned that they are even very content (Table 14).

Table 14. *Satisfaction level concerning the personal life*

Code	Level of satisfaction	Rate %
a.	Very satisfied	10.39
b.	Satisfied	59.09
c.	Indifferent	4.55
d.	Unsatisfied	22.08
e.	Very unsatisfied	3.90

Source: Own calculation.

It is interesting to analyze the way of constructing the personal satisfaction, without a direct determination between the material conditions and the persons' satisfaction. The satisfaction depends, as the survey demonstrates, mostly on the familial and professional environment.

The results of the survey have been further interpreted and compared with the results obtained by using various models and indexes for the sustainable development. In the majority of the cases the citizens' views are in line with the quantitative results. In some cases the particular regional actors' perception was more refined identifying even the causes of the phenomena or providing ideas for finding appropriate solutions to cope with the actual challenges.

4. Conclusions

The study revealed the strong correlation between the objective and subjective perspectives, i.e. between the statistical data and the citizens opinion. It should also be mentioned that the research had a wider approach, in this paper being presented only the main aspects and indicators. The research has been conducted within a research project framework, financed by the national budget for research and innovation (UEFISCDI).

The contribution of the study consists in the innovative elements and approach which could be valorised for enhancing the scientific base used in the regional development strategy design process and for increasing its participatory character in order to identify the sustainable development main paths. In this perspective, this approach support the e-Democracy concept, referring to "the possibility to develop the influence and participation of the public in the political sphere" (Nordfors et al., 2009, p. 15), using advanced and efficient online interaction channels. Thus, the citizens' involvement will take place in the virtual place (Panopoulou et al., 2009).

The proposed model could be implemented for various benchmarking analysis regarding the status and the positioning of the sustainable development indicators towards specific targets.

The results could generate different scenarios facilitating the interpretation and analysis for improving the decision making process. Simultaneously, the results based on the statistical analysis could be integrated with the citizens' views generating a holistic approach related to the regional sustainable development.

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