

STEPS TOWARD MEASURING URBAN SUSTAINABILITY IN ROMANIA

Abstract

The paper addresses the issue of how sustainable development at the local level can be measured (evaluated) and proposes a methodology for assessing local development strategies in light of the main tenets of sustainable development and smart growth. In the theoretical sections of the article the author discusses the distinction between sustainable development and smart growth and argues that it might be easier to operate with the concept of smart growth if we want to assess efforts undertaken by municipalities with regard to land use and urban planning issues. In the final section the author describes a methodology developed following a Delphi panel with successive rounds.

Keywords: sustainable development, smart growth, urban sprawl, local development strategies, multi-criteria analysis

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MĂSURI VIZÂND EVALUAREA DEZVOLTĂRII DURABILE ÎN ROMÂNIA

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Rezumat

Lucrarea de față abordează problematica măsurării dezvoltării durabile la nivel local și propune o posibilă metodologie pentru evaluarea strategiilor de dezvoltare locală prin prisma principiilor majore subsumate dezvoltării durabile și dezvoltării inteligente. În secțiunile teoretice ale articolului autorul discută distincția dintre dezvoltare durabilă și dezvoltare inteligentă și argumentează că este mai ușor de operat cu conceptual de dezvoltare inteligentă atunci când se dorește evaluarea eforturilor întreprinse de municipalități în domeniul urbanismului și planificării urbane. În secțiunea finală autorul descrie o metodologie dezvoltată în urma unui panel Delphi cu runde successive.

Cuvinte cheie: dezvoltare durabilă, dezvoltare inteligentă, dispersie urbană, strategii de dezvoltare locală, analiză multicriterială.



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1. INTRODUCTION

Sustainability assessment/measurement at the local level cannot be analyzed without understanding the broader context in which performance measurement in government has developed over the last three decades. Good governance principles stress the fact that public institutions need to be open, transparent, and accountable to their constituencies. This means that citizens and other stakeholder need to be informed and consulted about the actions of public authorities. In addition, New Public Management requires public authorities to become more efficient and to operate similar to business entities. This means that performance measurement is an important part of this new culture.

When trying to measure how sustainable local development is, there are numerous challenges, in addition to the one usually associated with performance measurement. First, sustainable development is extremely broad and it is hard to break it down into its components. Second, it is not always clear what exactly is one measuring (inputs, results/processes, outcomes, etc). Third, numerous indicators associated with sustainability, are not directly influenced by the actions of local authorities.

In the following section we focus mostly on the issue of sustainable development in relation to urban planning issues at the local level.

2. TWO INTERLINKED CONCEPTS: SUSTAINABLE DEVELOPMENT AND SMART GROWTH

In this section we discuss two important concepts from the urban planning literature, namely sustainable development and smart growth. We argue that if one is interested in measuring sustainability at the local level, especially with regard to land use and urban planning issues, the concept of smart growth is more useful.

Sustainability has been for the last three decades a 'buzz' word in the environmental and planning literature, conveying a multitude of meanings, that are often divergent, to a variety of individuals, professions, interest groups, governmental agencies, political leaders, NGOs and grassroots organizations (Neamțu, Dragoș, Velișcu, 2009; Beatley, 2000; Campbell, 2003; Portney, 2003; Selman, 1996; Wheeler, 2004; Zachary, 1995). As the broad concept of sustainability has evolved, so, too, have several of its derivatives – sustainable communities, livable communities, and sustainable cities. In addition, the concept of sustainable urban planning appears as a logical corollary of sustainable cities, implying a long-term approach to decision-making, a holistic outlook integrating various disciplines, interests, and analytic approaches, a questioning of traditional models of growth and acceptance that

limits to these exist, a new appreciation of the importance of place, and proactive involvement in healing societies and ecosystems (Wheeler, 2004, p. 35).

The concept of 'sustainability' in its modern sense emerged in the early 1970s in response to a dramatic growth in understanding that modern development practices were leading to worldwide environmental and social crises (Wheeler, p. 19). The term is nonetheless very broad and abstract (for a discussion about the existing branches of sustainability see Kidd, 1992; Brown et. al, 1987), thus creating confusion and cynicism as well as positive environmental change (Portney, 2003, p. 3).

While sustainability is more directly related to biology and ecology (Arrow et al. 1995; Carter, 1989; Rees, 1992), the concept of sustainable development or sustainable economic development brings elements of economic activity more explicitly into the equation (Portney, 2003, p. 7). It is a catchword for alternative development approaches that could be envisioned as continuing far into the future (Wheeler, 2004, p. 19; Fox and Brown, 1998). Cross-generation concerns and the idea that economic development needs to be viewed over a longer period of time than it is usually practiced were the key highlights of the Brundtland Report in the late 1980s; the definition of sustainable economic development put forth by the report quickly became known and accepted by a variety of actors, despite the fact that it is rather short on details on how to pursue 'economic development activity that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987).

The concept of sustainable communities emerged in the context of a better understanding of the role played by local governments and grassroots efforts in promoting the goals of sustainability (Selman, 1996). If cities are to become more sustainable, urban planning needs to undergo a shift in paradigm. Planning for sustainability would be based on the following principles: harmony with nature, livable built environments, place-based economy, equity, polluters pay, and responsible regionalism (Berke and Conroy, 2000; Beatley and Manning, 1997).

Apart from the concept of sustainable development, the planning literature focuses on smart growth as well – the latter concept fits under the broad umbrella of sustainability but is more applicable to specific urban management and urban change scenarios. The term of smart growth has its roots in the United States, where it was first used by the Governor of Maryland (Parris Glendening) to describe the strategy of state-level authorities to finance new infrastructure investment only in those areas designated as desirable and simultaneously to encourage land conservation and other areas designated for that purpose. The concept was taken over and used in many countries, presently designating a set of public policy strategies and instruments that are actively trying to redirect urban and peri-urban development to

certain areas; smart growth also occurs as an alternative response to the problems / negative effects of the uncontrolled peri-urban development (Wolch et al., 2004). From the very beginning, the term was seen as extremely attractive because it represents a bridge between the techniques and instruments used to encourage continuous development of cities in the 1950s, 1960s, and 1970s and the restrictive measures which severely limited development opportunities and which are subsumed to the movement called urban growth management (in this case the emphasis is placed on simply limiting growth).

Other possible definitions of smart growth include:

The Urban Land Institute, a research center in the United States which had an instrumental role in the development of the concept, shows that the major goal of smart growth is to identify a common frame of reference for citizens, local authorities, environmentalists, investors, construction enterprises etc., in relation to which these actors can identify ways in which future development of urban centers and their periphery are possible (Porter, 2002).

Another definition characterizes smart growth as a set of development principles, as well as urban planning practices that result in a more efficient spatial planning and transport system (VTPI, 2007). The quoted study also shows that smart growth is an alternative to the chaotic peri-urban development, characterized by a low density, sprawled buildings and encouraging car dependency. An interesting finding of the VTPI study (2007) is that the concept of smart growth can be applied in varied locations, from city centers to peri-urban and even rural areas. This remark is important because those who oppose urban development management often argue that all these policies do not recognize or oppose the development outside the existing city boundaries or old urban centers. Thus, in the urban areas, smart growth focuses on projects promoting regeneration or restoration of already existing neighborhoods, improving standards of design, including the creation of streets and pedestrian refuges, traffic flow measures, creating an integrated transportation system, the emphasis being on facilitating pedestrian traffic, cycling, etc. For the periphery area, smart growth is translated through the integration of different sectors such as the residential, economic, services ones (this can be done by creating multiple focal points which are then connected by transportation corridors), medium density. In the peri-urban area we speak either of communities which are planned and built in such a way they respect the smart growth principles even from the start, either of existing communities where there is an incremental process of change (this is more than difficult to achieve). In agricultural / rural areas, smart growth focuses on the concept of cluster, basically a well-defined area where all activities and construction which are not specific to rural areas are concentrated. Simultaneously, various methods will be used for connecting various interest points inside the clusters (walkways, for example).

Godschalk et al. (1977) show that above all, urban development management is the deliberate and planned intervention of government structures seeking to control the volume, pace, type and location of the future urban development. Chinitz (1990) brings into discussion the dynamic and active nature of smart growth; it seeks to maintain a balance between development and conservation, between the new buildings / neighborhoods and the available infrastructure, between the demand for new infrastructure and utilities investments and the financial resources available, between progress and social justice.

Summarizing all these definitions, Porter (2008) identifies six main features of urban development management:

- It is an activity undertaken by the public sector in order to direct and control public investments and urban development projects initiated and undertaken by the private sector. The public sector plays an active role which manifests even from the early stages of urban development projects. The reason or legitimacy of government intervention is given by the general / public interest – the unplanned urban and suburban development can cause profound negative effects for the entire community.
- It is a dynamic process - it must constantly adapt to the changes that occur.
- It has to anticipate the tendencies that occur in connection with urban sprawl and to a priori identify ways in which these needs determined by the future development will be met.
- Management programs of urban development have the difficult task of trying to find a balance between divergent goals and interests: public interest versus individual rights and fundamental liberties; economic development versus conservation of natural resources; efficiency versus social equity etc.
- It does not only regard the peri-urban area; it is true that this current emerged from the need to solve some problems caused by the chaotic, unplanned peri-urban development. However, the concept is applicable in any type of community, from the highly urbanized to the rural ones. In this context, we have to admit that the terms of urban and rural presently tend to become increasingly difficult to separate, especially since there are a lot of spaces that are placed somewhere between urban and rural.
- Local objectives of the urban development management programs must always be thought in the broader context of metropolitan areas or regions. This is because the expansion of urban areas to the periphery tends to override political and administrative boundaries that separate different administrative-territorial units. Furthermore, certain local conditions that affect the

nature and location of new neighborhoods or buildings are the result of forces that occur at a superior geographic level to the local one.

It is useful to examine the principles underlying the movement called smart growth. Although these principles are not unitary formulated, we believe however that the list presented below (Stewart, 2005), without being exhaustive, summarizes the existing approaches so far:

- Merging between different zones / sectors (residential, commercial, services, banking sectors etc.);
- Encouraging a compact design of buildings;
- Creating multiple opportunities in terms of selecting the type of housing;
- Creating a streets configuration that encourages walking;
- Creating communities that have distinctive features and a distinctive identity perceived as such by residents;
- Preservation of green spaces, agricultural land, of the natural beauty and rare ecosystems;
- Directing future development to already inhabited areas;
- Providing a variety of options in terms of transport;
- Establishing clear rules that make decisions regarding urban development to be predictable, fair and efficient in terms of the money involved;
- Encouraging key stakeholders in the community to participate in the decision making process;
- An efficient management of infrastructure and of the future investments in infrastructure;
- The regeneration and remodeling of the already built neighborhoods / zones in urban centers.

Examining all the above definitions, it can be concluded that despite different formulations and despite an apparent general mission, smart growth has practically a restricted application, mainly to the sphere of public policies aimed for the environment and planning.

Wolch et al. (2004) consider that instruments regarding the management of urban development should be classified and analyzed taking into account 3 different dimensions: the main goal pursued; the implementation mechanism used; and the government involved. With regard to the first dimension, the authors cited above consider that we can talk about eight distinct goals which are to be achieved through the instruments of urban development. These eight goals are: directing the development to

certain areas; the conservation of agricultural lands and green spaces; the reduction of automobile dependency; the control of the volume of new constructions; community redevelopment; change in attitudes / behavior towards the environment; encouraging regional cooperation; and correction of distortion of the real estate market. We believe that this classification is too general, keeping up to a point the confusion which can also be found in the definitions and conceptual boundaries of smart growth. Therefore, we believe that the classification proposed by Porter (2008) of instruments based on their goals is much more useful. The author identifies six major goals and various instruments are attached to each goal:

- a) Urban growth management – toward what areas should the future expansion of the city be channeled?
 - Urban growth boundaries.
 - Urban service boundaries.
 - Areas designated for the future expansion of the city.
 - Rates of urban growth.
- b) Techniques aimed at preserving the environment and natural resources – what areas should be exempted from development?
 - Conservation easements.
 - Green infrastructure systems.
 - Protection of agricultural land.
 - Standards for air and environmental pollution.
 - Compensation for the destruction of natural/recreational areas.
- c) Techniques that are meant to ensure the provision of appropriate infrastructure for the new neighborhoods / communities
 - Impact fees.
 - Condition the issuing of new construction permits on the existence of the necessary infrastructure.
 - Incentives for locating the new schools, shopping centers, cinemas, etc. close together so that they are accessible without the use of a car.

- d) Techniques that encourage new constructions and neighborhoods to meet quality standards
 - The mixed functional zoning.
 - Form-based zoning (design standards) instead of functional zoning.
 - Green buildings / roofs.
 - The preservation of buildings in the historical areas / neighborhoods.
- e) Techniques which attempt to limit the unintended effects of the urban development management and to promote social equity.

One limitation of smart growth often cited is the fact that it sometimes contributes to the deepening of social inequity and to the exclusion of certain groups. The local public authorities can thus offer investors various incentives in order to include, for example in residential neighborhoods, a number of low-cost housing units for those belonging to certain disadvantaged groups. Also, public authorities can provide facilities for those investors who implement brownfield projects - former industrial areas that are abandoned or derelict and declining neighborhoods. Simultaneously, however, public authorities must also take into account the rights of disadvantaged residents living in these neighborhoods. Urban development management programs were often implemented without taking into account the fate of these individuals. Most times, without public intervention, they will have to leave because once redeveloped, these communities are no longer financially accessible for them (the gentrification phenomenon). As stated earlier, urban development management programs always require a careful and sometimes very difficult balancing of conflicting needs and goals.

- f) Programs through which county/regional/central authorities assist local authorities in the implementation of management strategies for urban development

Most management strategies for urban development can be found at the local level. The local level can, however, face difficulties which can be mitigated through the intervention of other public authorities at a higher level. In our country, the administrative system includes a local level - villages and cities, an intermediate level – the county and the central level. The regional level, although present, is not properly an administrative level, the regional authorities rather having the role of intermediaries with regard to the management of regional development funds. It should also be noted here that between the local and county level authorities there is no relationship of subordination but only of collaboration / coordination. First of all, it must be said that the law which enables local and county authorities to associate in intercommunity development associations (Law no. 286/2006 on amending and completion of the framework law of the local public administration no. 215/2001), provides a series of financial

incentives. Thus, it is attempted to stimulate the cooperation between different jurisdictions, also in the field of urban development planning. County Councils may also act as intermediaries between the city and the communes in the city's area of influence when the building of a metropolitan area is desired so that the city not to take the lead in such a project. Other county and/or central incentives may also include: financial resources, technical assistance initiatives to amend / complete the legal framework etc. We must not forget the European programs that provide financial assistance for various aspects of urban development.

3. WHAT EXACTLY ARE WE MEASURING?

The concept and practice of urban sustainability assessment are completely new for Romania. Sustainability and sustainable development have become part of the jargon used by Romanian policy makers at all levels in government. Ministries and central agencies draft strategic plans based on the principles of sustainability; local authorities, even in rural areas, are in the process of developing master plans for their community that incorporate in their title the word 'sustainability' or 'sustainable'. In many cases however, sustainability remains merely an abstract concept, sometimes required in order to get external funding, but without any meaning to policy makers. This article emphasizes the need to come up with an operational definition of sustainability and with a methodology that will allow policy makers to evaluate their efforts toward reaching the main tenets of sustainability. The situation is worsened by the fact that there is a lack of performance monitoring culture in the public sector altogether.

There are two main different mechanisms regarding how urban sustainability assessment can be carried out at the local level (see also Neamțu, Dragoș, Velișcu, 2009):

- First, one may assess how seriously cities are pursuing sustainability. This assessment option is based on whether issues of sustainability can be said to be clearly and unambiguously on the public agenda. The emphasis here is not on the extent to which cities have actually achieved particular environmental result; it rather focuses on the existence, or lack thereof, of a set of policies and programs aimed at increasing sustainability (Portney, 2003, pp. 32-33). The main planning documents to be taken into consideration are local sustainable development master plans or strategies that most cities have or are in the process of developing them. This policy option has several major advantages. In the first place, it allows for at least some sort of measurement in locales where sustainability efforts are still in early phases and therefore observable benefits are hard to identify and measure as yet. Second, local governments are not 'penalized' for negative developments related to sustainability that are out of their control –

there are factors such as global warming or the decrease in the number of certain species that are impacted by broader phenomenon than the ones controllable at the local level. The main disadvantage is that neither the conceptual nor the empirical work on sustainability has been able to link specific policies or programs to an improving environmental quality (Portney, 2003, p. 34). Portney's model is based on the work of other scientists, who, at least partially, incorporated into their measure of sustainability indicators measuring leadership, institutional capacity, and/or strategic planning for sustainability. For example, Etsy's "Environmental Sustainability Index", computed for nations, includes among its 67 variables, data referring to the capacity of nations to promote and advance sustainability (Portney, 2003, p. 33).

- The second option available for cities is to build measurement systems that directly assess the state and the quality of the environment and/or of other dimensions such as economic growth, social equity, and quality of life that may be brought under the umbrella of sustainability. Sustainability indicators are at the core of designing and implementing a measurement system of urban sustainability. Indicators are bits of information that reflect the status of large systems (Huang et al., 1998). Sustainability indicators greatly differ from other type of environmental indicators used in the past, as they tend to be more complex and more encompassing. Maclaren (1996) distinguishes urban sustainability indicators from simple environmental, economic and social indicators by the fact that they are not only integrating but forward-looking, distributional, and with input from multiple stakeholders. Opschoor and Reijnders (1991) argue that sustainability indicators, as opposed to mere environmental ones, do not simply reflect environmental conditions or pressures on the environment, but indicate interactive characters between socioeconomic and ecological systems. Indexes or composite indicators are also used to assess sustainability. The use of indices in the field of sustainable development facilitates the understanding and interpretation of a given phenomenon, particularly for the public (Tanguay, 2009, p. 3). Beatley and Manning (1997, p. 205) argue that indicators come with benchmarks or targets, as their natural extensions, which provide a tangible and specific goal for sustainable places and an ability to know when a community is being successful and when it is falling short.

4. MULTI-CRITERIA ANALYSIS OF THE LOCAL DEVELOPMENT STRATEGIES OF THE MAJOR CITIES¹ IN ROMANIA, FROM THE PERSPECTIVE OF SMART GROWTH

In this section we describe a possible tool for measuring urban sustainability at the local level based on the strategies and the action plans drafted by municipalities. This tool does not measure what municipalities actually do but rather what they intend to do (first option described in the previous section). This tool allows us to assess how municipalities address issues concerning urban growth (diagnosis and forecasting) as well as their strategic vision for the future of the city (vision, objectives, policies, and tools). This tool has been used in a previous research (Neamțu, 2012) for the evaluation of the local development strategies of the major cities in Romania.

We propose the use of multi-criteria analysis based on a total score of 1000 points. The criteria and the allocation of points for each criterion were established through a Delphi panel with multiple rounds. The methodology for conducting the Delphi panel is described below. For future researches a similar methodology could be used in order to identify other dimensions of sustainable urban development and/or smart growth.

A first question that needs to be answered is which cities would be the best candidates for this type of evaluation. While the criteria could be applied to any city/town, we consider that this tool is best suited in the case of major cities – recognized as such by the Romanian law (the capital city and 11 cities of national importance, having a potential influence at the European level).

The Delphi panel included the following stages:

- a) The problem to be solved by the experts was clearly defined – the experts were asked to identify possible evaluation criteria of a local development strategy from the perspective of smart growth principles. The experts were informed that the researchers are interested in two main aspects: the way in which the local authorities conduct the diagnosis and the forecasts associated with urban change processes; and if and up to what extent the strategic vision concerning the future evolution of the city on the long term is guided by principles such as sustainable development, planned expansion of certain built up areas, smart growth, preservation of open spaces, etc. the experts were required to offer synthetic criteria, followed by a short explanation concerning their choice. Finally, they were informed that in a following round they will have to assign a score for each criterion.

¹ According to the Romanian law

- b) The experts who took part in the design of the evaluation grid were selected by the researcher from the list of the specialists, both practitioners and university professors, who took part in 2006 to the drafting of the Cluj Napoca local development strategy. Out of 43 experts who could be contacted, six experts agreed to participate. The question to be discussed by experts was initially sent by email; they had a week to turn in, also via email, their initial draft. The answers received at this stage were rather unstructured. Following the instructions of the researchers, the experts proposed different criteria for evaluation. All the answers were included into one common grid; this allowed us to eliminate redundant criteria. At this stage the researchers tried to group the criteria offered by experts into several dimensions. It is true that such interference can distort the brainstorm process; however it was necessary because the proposed criteria were extremely diverse.
- c) The grid obtained through this process was resent to the experts, with the mention that the proposed dimensioned can be changed. The experts were required to assign scores for each dimension – the suggested maximum score was 1000 points.
- d) The answers obtained from the experts were again centralized by the researchers. A final evaluation grid was put together and resent to the experts. A face to face meeting was finally organized, were several aspects were discussed with the experts. At this stage the researchers had to make several decisions, based on the input of the experts – for example how to address the issue of lack of comparability of certain strategies.

THE EVALUATION GRID THAT RESULTED OUT OF THIS CONSULTATION PROCESS IS PRESENTED BELOW IN TABLE 1.

TABLE 1 - MULTI-CRITERIA EVALUATION GRID FOR THE ASSESSMENT OF THE LOCAL DEVELOPMENT STRATEGIES DRAFTED BY MUNICIPALITIES FROM ROMANIA

1.Strategic timeframe 1.1 Planning timeframe a. Short term (0-7 years) – 0 p b. Medium term (0-15 years) – 25 p c. Long term (0-over 15 years) – 50 p 1.2 Interim review a. Yes – 30 p b. No – 0 p 2. Mission (role) of the local public authorities in managing urban growth/urban sprawl 2.1 Is the role of the municipality regarding urban growth management clearly stated in the strategy? a. Yes – 50 p b. Partially – 25 p c. No – 0p 2.2 Are the control (enforcement) and monitoring competences of the municipality clearly defined in the strategy concerning land use and zoning? a. Yes – 50 p b. Partially – 25 p c. No – 0p 3. The diagnosis of urban sprawl 3.1 The urban core and the periphery are considered together (a unitary whole) from the perspective of urban planning a. Yes – 20 p b. Partially – 5 p c. No – 0 p 3.2 There is an analysis of the evolution of population starting with 1989 a. Yes – 20 p b. Partially – 5 p c. No – 0 p 3.3 There is an analysis of the evolution of the built surface starting with 1989 a. Yes – 20 p b. Partially – 5 p c. No – 0 p 3.4 There is an analysis of indicators such as density, fragmentation, built surface per capita, etc.
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a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

3.5 There is an analysis of the infrastructure built in the new neighborhoods/at the periphery

a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

3.6 There is an analysis of the evolution of the green spaces.

a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

4. Medium term forecast concerning the city's expansion into the hinterlands

4.1 There is a medium term prognosis concerning the evolution of population.

a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

4.2 There is a medium term prognosis concerning the evolution of the built up surface

a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

4.3 There is a correlation between the evolution of the population and the territorial expansion of the city.

a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

4.4 There is a study indicating the preferences of residents concerning the type of house, neighborhood, leisure/entertainment they would most likely choose

a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

4.5 There is an updated zoning ordinance based on the master plan or at least the stated intention of the municipality to proceed in this direction

a. Yes – 20 p

b. Partially – 5 p

c. No – 0 p

5. Strategic vision – if and up to what extent it fits the tenets of smart growth (max. 100 p).

6. Strategic objectives – if and up to what extent they fit the tenets of smart growth

- 6.1 Objective 1 (max. 20 p)
- 6.2 Objective 2 (max. 20 p)
- 6.3 Objective 3 (max. 20 p)
- 6.4 Objective 4 (max. 20 p)
- 6.5 Objective 5 (max. 20 p)

7. Action plans – what type of interventions the municipality favors in order to manage urban growth/urban sprawl (max. 350 p)

- 7.1 Urban growth management policies/programs– toward which areas should the future expansion of the city be channeled? (10 p *project)
- 7.2 Use of techniques concerning conservation of the environment and of the natural resources – establishment of areas which should be excluded from development in the future (10 p *project)
- 7.3 Use of techniques meant to ensure that the new neighborhoods will have proper access to infrastructure/utilities (10 p *project)
- 7.4 Creation/enhancement of public transportation, pedestrian areas, bicycle lanes, etc. (5 p *project)
- 7.5 Use of techniques/incentives meant to encourage new neighborhoods/new buildings to meet higher quality standards (5 p *project)
- 7.6 Brownfield redevelopment (5 p *project)
- 7.7 Programs meant to limit the unintended effects of smart growth (higher prices for houses) and to promote social equity (5 p *project)
- 7.8 Programs which target the cooperation between the municipality and the rural communities that form the hinterland concerning the integrated management of urban growth (10 p *project)
- 7.9 Urban planning (5 p *project)

8. Is there a link between the stated vision, the objectives, and the proposed action plans? (max. 50 p)

In the following lines we will explain for each dimension and the attached criteria why there were chosen and how the 1000 points were distributed among dimensions and criteria. The explanations represent the consensus reached by the group of experts at the end of the successive rounds of the Delphi panel.

Strategic timeframe

This dimension analyses the urban development strategies from the perspective of the timeframe considered when drafting the strategy. These strategies are usually drafted on the long term – their goal is to establish the strategic vision concerning the future development of the community. They respond to two main questions: how will the city look like twenty years from now and what strategies should be used in order to get there. Especially in the case of communities which operate within a rapidly changing external environment it is important to have a clear strategic vision. This does not imply that changes should not be made – every 3-5 years the strategy should be updated, however these changes

should not compromise the strategic vision. The experts taking part in the Delphi panel agreed that the explanation often found in strategies with a shorter strategic timeframe that the external environment is ever changing, thus there is a need for short term strategies is not plausible.

Taking all these into consideration, the experts identified three strategic planning timeframes: short term (0-7 years), medium term (0-15 years) and long term (0-over 15 years). The scores attached to each of the timeframes are: 0 points, 25 points and 50 points. 30 points are given if there is an explicit mention in the strategy with regard to the interval when the update of the strategy should take place.

Mission (role) of the local public authorities in managing urban growth/urban

The configuration and texture of the new urban zones are the result of the vision municipalities and the other actors within the community have with regard to the role of the state in the process of urban change. It is important to assess how municipalities perceive their role in directing and controlling urban change – while there are factors which cannot be controlled by municipalities there are aspects which can be influenced through local policies and incentives/sanctions at the local level. Very often chaotic urban development is the result of the fact that municipalities abandon their role of makers and enforcers of land use rules in favor of other actors (business elite, developers, residents). For the two criteria of this dimension, each can be assigned a maximum of 50 points provided that there is an explicit statement regarding the municipality's competence to make and enforce land use norms. 25 points can be given for partial statement concerning this issue.

The diagnosis of urban sprawl

This dimension is meant to evaluate how municipalities diagnose phenomena associated with urban change – for example urban sprawl. The expansion of the city can take place in the context of population and economic growth or in the context of demographic and economic stagnation. In order to correctly label a process of urban change as urban sprawl the municipality needs to analyze the evolution of certain indicators such as population, density of population, built up surface, fragmentation of green spaces, etc. also, municipalities need to take into account that the spatial expansion of cities no longer follows the administrative-territorial limits/boundaries. Therefore, municipalities need to consider their relation with the hinterland during the diagnosis stage, and the strategic vision should be build accordingly.

As it can be seen from Table 1, there are 6 criteria attached to this dimension. 20 points will be assigned for each criterion provided that data are presented in a manner which allows the identification

of a trend; 5 points for a partial presentation of the data with the identification of a trend, and 0 points if the data are missing altogether.

Medium term forecast concerning the city's expansion into the hinterlands

The strategic vision cannot be developed in the absence of forecasts concerning the evolution of demographic and economic factors, the preferences of the residents, etc. The effectiveness of numerous tools used for growth management and smart growth depend on such forecasts as those mentioned above. Five criteria were attached to this dimension (see Table 1 above). 20 points are given provided that there is at least one scenario regarding the most likely evolution to take place on the medium term; 5 points if the requirement is partially met; and 0 points if data is missing altogether.

Strategic vision – if and up to what extent it fits the tenets of smart growth

The strategic vision can be considered an imaginary representation of what the city will look like in a certain number of years. Usually it appears as a synthetic statement which comprises key strategic elements. This statement can be then followed by several explanatory paragraphs. The strategic vision, when skillfully stated, has a strong impact upon those who receive it because it incorporates in a synthetic way the essence of what the city is to become in the future. Behind the vision there is usually a quite complex and lengthy consultation process. The higher the number of people who identify themselves with the vision, the higher the impact of the vision/strategy will be.

A quite used concept within local development strategies and which is related to the strategic vision is the city brand. Without going into details, the brand represents a logo/statement together with a graphic representation which tries to capture the essence of the city, the way in which the city defines itself in relation with the exterior world. The strategic vision and the brand are not the same thing but many cities have launched the city brand after a process of strategic planning. During the evaluation of the strategies, the evaluators need to identify either a strategic vision explicitly stated in the text of the strategy or a brand that focuses on key elements of smart growth. A maximum of 100 points can be assigned for this dimension.

Strategic objectives – if and up to what extent they fit the tenets of smart growth

The strategic vision is broken down into smaller components with the help of strategic objectives. As in the case of the previous dimension, the evaluators need to decide if and up to what extent the strategic objectives are compatible with the concept of smart growth. Even though one can argue that this sort of assessment is subjective, the evaluators are familiar with the requirements of smart growth. Due to the

different ways in which municipalities can state their strategic objectives, it is very hard to establish in advance precise criteria for their evaluation.

In general local development strategies have between three and six strategic objectives. 20 points will be given for each objective that is fully compatible with smart growth (but no more than five); 5 points will be given for objectives which are partially compatible with smart growth.

Action plans – what type of interventions the municipality favors in order to manage urban growth/urban sprawl

The strategic vision and the objectives are translated into practice with the help of policies, programs, and action plans. The experts have decided to focus on action plans, which represent the most disaggregated level of public intervention. After the first round of consultations, when no consensus was reached among the experts, the experts were offered several alternative classifications of the projects. One classification that most experts agreed upon is the one by Porter (2008) also described in section 3 of this article. The experts added three new types of programs – those which concern themselves with public transportation, pedestrian areas, bicycle lanes, brownfield redevelopment, and strategic planning. Also, the criterion from Porter's classification dealing with the assistance from the central government offered to lower levels of government with regard to urban growth management was replaced with the cooperation between the public authorities operating within a metropolitan area. In the end, as it can be seen from Table 1, there are nine types of action plans considered.

For this dimension a maximum of 350 points can be assigned (a 50 points bonus is allowed provided that the overall score is lower than 950 points). For projects that fall within 7.1, 7.2, 7.3, and 7.8 10 points can be given. For the rest of the projects 5 points can be given. This differentiation between projects was decided by the experts based on the following rationale: not all projects involve the same type of resources, political will, resistance to change, and positive impact upon the urban environment. It was decided that the projects mentioned above are most likely, at least in theory, to produce significant results from the standpoint of smart growth. This programs are also the most difficult to implement because they imply a profound change with regard to status quo.

While designing this dimension, the experts have been faced with an important dilemma: not all strategies comprise programs/projects that are equally detailed. By examining several strategies the experts have noted that certain cities prefer to list only the priority projects while others offer a list of all projects. Therefore it was decided that if certain cities present complex projects, which in fact are

formed of many separate projects, then a score will be assigned for each individual action. In those cases where only the priority projects are presented, they score will automatically double.

Link between the stated vision, the objectives, and the proposed action plans

With the help of this dimension we aim to assess if there is any consistency between the strategic vision, the objectives, and the action plans. We strive to identify those situations when a strategic vision deemed compatible with smart growth is not supported down the road by specific action plans. For this dimension a maximum of 50 points can be assigned.

Other dimension and/or criteria can be identified as well. If the experts are given the task of focusing more on sustainable development, then it is possible to have slightly different dimensions and criteria, most likely based on the well known dimensions of sustainability: social, economic, and environmental.

5. CONCLUSIONS

Currently there is a growing trend in the public sector oriented toward performance measurement and evaluation. Urban planning incorporates numerous tasks performed by municipalities and produces impacts at the community level which need to be assessed. Sustainable development is a relevant concept for evaluating how well municipalities perform with regard to planning issues. Smart growth lends itself even better to such an endeavor mainly because its principles and operation definitions focus mostly on applied land use issues. In our article we argue in favor of using smart growth and not sustainable development in order to measure how well municipalities do with regard to urban planning issues. We developed a methodology for assessing how sustainable communities are based on their local development strategy. The evaluation grid uses multi-criteria analysis, has eight dimensions, and a total possible score of maximum 1000 points.

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