THE GREEN AREAS MANAGEMENT AND THEIR ECONOMIC AND SOCIAL INTEGRATION IN THE URBAN ENVIRONMENT

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Abstract

The situation that exists at the level of the urban areas from Romania testifies a natural environment with a high risk for the health of the inhabitants as a consequence of the low level of the ecological development resulted from the lack of an integrated management of the green areas and spaces in comparison with the other components of the sustainable development.

In the strategic management of the green areas and spaces having as purpose the improvement of the quality of air the priority role is held by the obtainment of necessary information in the view of adopting decision. In this context, monitoring the existent green areas represents a fundamental element that has to provide the necessary information.

In correlation with this monitoring it is necessary the realization of the operative informational system for supervising the air quality constituted automatically from fix monitoring points and in a real time of the main air pollutants. The domains of sustainable development at the level of urban areas are considered to be: urban planning, the management of green areas and air quality, the management and the reduction of the sweepings, water quality, energy efficiency, clean and efficient transportation, etc.

Kezwords: *green area, leisure, recreation, urban,*

Clasificare JEL : *M1, O1, O2,*

1.Introduction

At a primary analysis, the situation registered in the industrial towns in Romania is not rejoicing one because there still are too many constructions and too little green spaces in these towns. The public gardens are under the European limit both regarding their surface and their arrangement. Even in this situation, the town halls approve the constructions of blocks and shops in detriment of parks. Until 2013 every town must provide to its inhabitants 26 sqm/per inhabitant.

The information owned by the Ministry of the Environment about the green surface of the towns in Romania shows that, since 1990, their trend followed a descendent line. From almost 22.000 hectares, as they were in 1990, the green surface decreased with about 2.000 hectares, while an important increase was produced in 1980-1990, when the total increased with about 5.000 hectares. The most important decrease passed in the big cities where during the last 15 years the green spaces were reduced with about 30%. For example, Bucharest was the most affected, registering a decrease with about 50%, from 34 million square metres of space, as they were in 1989, to only 17 million square metres.

The surface stipulated by the World Health Organization (WHO) or any planet inhabitant is of 50 square metres per inhabitant (between 40 and 60 sqm/ inhabitant). Romania accessed this norm only on paper, more specifically in the Report on the Environmental State in Romania, the real average actually reaching only 18 sqm/inhabitant. The small surface is not the only problem of the green spaces in Romania. The other big problem is the inadequate state of many of the parks and public gardens in the country. In cities such as Târgu-Mureş, Constanţa, Cluj-Napoca, Iaşi or Bucureşti, most of the green spaces were transformed in commercial areas.

Neither the European localities achieve the WHO exigencies, the continental average being of about 25 sqm/inhabitant[1]. In this respect, the European hierarchy brings a much higher average to the situation from Romania. Actually, the European localities have made a real tradition from the concern for the environment. In the European top, there is Austria with sqm/inhabitant, followed by Netherlands and Belgium, having equal points - 65 sqm/inhabitant. The average in Hungary is of 30 sqm/inhabitant, and Malta and Cyprus have 35mp/inhabitant.

To the extremely complex environmental problems currently faced by the urban areas, a special attention should be granted in perspective to certain fields such as the urban planning, the management and the reduction of the wastes, the air quality, the water quality, the management of the green areas, the energetic efficiency, clean and efficient transports.

Regarding the management of the green areas in this general context, the urban areas will have to suggest for the future a series of ample projects in order to increase the surfaces, but also the quality of the green spaces, having an effect on the environmental quality but also projects of accomplishing certain areas of pleasure and leisure in frame of certain efficient environment strategies, all of these having a positive role on the health status of the population.

In order to identify solutions of a balanced functional development of the fields in the urban areas, it was accomplished an analysis at the level of some urban areas in Romania under the aspect of the strict functional area on functions and densities, specifying the percentage of occupying the field (POF), the coefficient of using the field (CUF) and the indicator of multiplying the field development (according to UNCHS Habitat: the average between the average price of the inside field that is town equipped and the one of the outside fields that are not town equipped). This analysis and the suggested solutions of sustainable development are subsequently essential in making the decision regarding the placement of the economic activities in these urban areas, both for the private investors and for the public ones.

The big cities of Romania benefited from investments and modernization projects of the parks and of extending the green spaces during 1950-1990, that is why they still have generous surfaces of green spaces at this moment:

- Craiova - 27,2 sqm/inhabitant (over the limit imposed in 2013);
- Sibiu - 24,8 sqm/inhabitant;
- Iaşi - 20,6 sqm/inhabitant;
- Braşov - 19,1 sqm/inhabitant;
- Timişoara - 15,93 sqm/inhabitant;
- Cluj-Napoca - 15,2 sqm/inhabitant;
- Bucureşti - 11,09 sqm/inhabitant.

The average towns, having a population of maximum 100.000 inhabitants and having a pronounced industrial role, have problems regarding the surface of the green spaces. This is due to the forced development during 1960-1990 when the evolution of the constructed space increased with an average of about 60%. Here there are towns like Alexandria, Turnu Măgurele Piatra Neamţ, Petroşani, Călăraşi that did not care about the green spaces.

In exchange, the small towns in the hill and field areas are localities where people enjoy a lot of green, according to the data of the Ministry of Environment. In their top, there is Vişeul de Sus (county of Maramureş), Gătaia (county of Timiş) and Bragadiru (county of Ilfov), where every inhabitant has some hundreds of square metres of green space:

- Vişeul de Sus, Maramureş - 443 sqm/inhabitant;
- Gătaia, Timiş - 359,13 sqm/inhabitant;
- Bragadiru, Ilfov - 226 sqm/inhabitant;
- Baia de Aramă, Mehedinţi - 197,53 sqm/inhabitant;
- Ocna Sibiului, Sibiu - 181 sqm/inhabitant.

In order to coordinate the management process of the functional areas and especially of the green areas with potential for pleasure and leisure, there were used models specific to the strategical and functional management. These managerial models may be used in order to accomplish a management plan of the properties in the public and private field in order to be able to respond to the future demand of fields, without producing prejudices to the balanced development of the area and of the urban environment.

2. The management of environment problems in the urban space.

The actual situation of the urban lands shows a predominance of the construction lands taking into consideration the high demand on the market of these lands. The field market is developing and it will reach in the future 10 years a maturity degree, fact that will determine the affecting of the fields with a potential of green areas. This will require the existence of a database containing information about lands and transaction, as well as the increase of the professional capacity of the municipality services from a qualitative and quantitative point of view but also of the real estate agents and of the appraisers of lands that live in the area.

1 According to the information from the Ministry of Environment

In order to prevent the damage of the environment and of the life quality, in the general list of the urban fields we will have to identify especially these green fields in order to be put under a local protection.

The main categories of green areas from the construction perimeter can be:

• Green spaces with unlimited access;

• Public green spaces and of specialized usage;

• Recreation areas;

• Sports complexes;

• Green spaces with limited access from the interior of some institutions;

• Areas planted in private yards - individuals should be advised to plant species characteristic of our area in arranging the gardens (Recommendation: plants that absorb pollutants).

The existent situation on these types of green land with development potential for recreation and leisure uses is unsatisfactory from the following points of view:

• Deficit of green space.

• Uneven distribution of green spaces. There are neighborhoods with a lack of green spaces. It is necessary that we keep the existent green areas but also that we create new green areas and recreation parks.

• Numerous areas with green spaces or that have a green potential development have been transformed in constructed areas. It is compulsory a strict settlement of the constructions from the green spaces, from the areas that have a potential of being arranged as green areas or as recreation and leisure spaces.

• In the autumn –winter period there is no sufficient perennial vegetation having as result desolate landscapes during these seasons. So it appears necessary the development of the spaces full with evergreen vegetation (southern or Nordic origin), especially trees on the sidewalks, green curtains that separate the streets from the sidewalks.

• Green areas are not perfectly integrated in the natural circuits and in the ecosystems specific to the areas. It requires the protection and extension of biodiversity in poultry and small animals that may inhabit the green zone (e.g.: for small birds by setting up nests, feeders, notices);

• There is no coherent long term plan and an official policy on green spaces and biodiversity protection. An operating plan is required to include active measures to preserve existing green areas correlated with active measures pro biodiversity, but also encourages the creation, necessarily, of new green areas and parks to meet anti-pollution and recreational roles with an emphasis on ecological criteria in relation with the aesthetic.

• There is little awareness campaigns and programs regarding the critical situation of the localities and their future development in the absence of adequate green spaces as number, surface and quality of the arrangement. The environmental education and information should be directed to owners of land which have a tendency to obsessive exploitation of constructed space. This should put an emphasis on strategies of awareness, prevention and accountability, it has to be developed a communication strategy, also develop measures of systematic information, environmental education and community involvement in addressing specific issues.

To coordinate the management of functional areas and green areas is necessary to conduct a management plan of the property from public and private sector to meet future demand by land without producing damage to the balanced development of the city and to the urban environment by following the directions listed below:

• Ensuring control of their supply of urban land available for construction by coordinating urban development planning, forms of urban land management and of land tax;

• Influencing economic behavior of users of land by local regulation for the Urban Master Plan;

• The increase of the performance of the Hall in the management of public land through arrangements such as green areas for recreation and leisure in order to generate revenues and reduce maintenance costs of the land.

The World Health Organization Guidelines provide between 40 and 60 square meters of greenery per person, while under European Union regulations, an urban resident should lie with an area of about 30-40 square meters. This is why they have to be taken urgently measures to meet current standards. Current legislation in force stipulates that local authorities consider several priorities:

- Improving environmental factors;
- The modernization and development of green spaces in cities,
- The establishment of new parks.

In European Union countries the authorities require that the minimum surface accepted is of 16 square meters of green space per capita. The norms in force on Romania talk about a necessary of minimum 26 square meters of greenery per person, which will be achieved by 2013. However, there are still restrictions on the allocation of land for future parks or green areas in the neighborhoods.

In terms of quality standards for the construction of new parks or redevelopment of existing ones, there is an improvement over the period 2007-20011. Thus, developments in recent years are made up of green spaces and planted areas, main and side alleys, rounds, rest benches, fountains and pools, playgrounds for children equipped with furniture, lighting, sanitary and fountains.

The lifestyle based on consumption is generating the urban expansion. The urban expansions are caused by the change of lifestyles and consumption, as well as by the tolerant strategies, but not necessarily by the population growth.

We need an action plan to address the two causes of intensive urban development expansion model: the consumption more than the standard needs of living and the tolerant policies of the design and spatial planning (urban planning).

3. Urban areas and the urban policies

The urban policy will have to play an important role in the promotion and prevention of the aggressive urban sprawl and maintaining a balanced intensive development complemented by extensive development of certain areas. In addition to reviewing the strategies that underpin urban plans, we also need a green tax reform, a gradual passing to taxes on pollution and inefficient use of land, materials and energy.

Because of urbanization, cities tend to consume more resources of land than they have for future development decades.

The main risk remains the consumption of area built over the standard needs of a human being. This also translates into an aggressive real estate development.

The high demand for new housing and for business centers and commercial areas has led to an accelerated pace of construction growth. Chaotic development of cities affects the quality of life, and the whole business environment, leading to considerable losses.

The authorities, together with developers and owners should consider implementing concepts such as "smart Growth" or "Urban Renewal" to prevent critical problems, as happened in Western cities from Europe 50 years ago (e.g. Palermo in the 50s).[2]

The aggressive real estate development and without any strategy may have serious consequences: the destruction of the city's green belt, land occupation with immediate potential for development of green areas and breaking into existing green areas. Currently, cities are faced with these problems resulting in considerable reduction in the quality of life.

The number of people suffering from lung disease (bronchitis, asthma, angina, etc.) or heart attack (myocardial infarction or coronary heart disease) has increased dramatically. For example, in 1995, 700 out of 100,000 people suffered from coronary heart disease while in 2007 their number reached 1,450[3].

Compared to highly complex environmental problems facing urban areas today, a special attention will be given in areas such as urban planning perspective, management and waste reduction, air quality, water quality ,management of green areas, energy efficiency , clean and efficient transport.

On the management of green areas in this general context, the municipalities will have to propose for the future, a number of large projects to increase the quality of green areas and with effect on the environment and to execute projects for recreation and leisure areas the urban planning policies, all with positive role on the health of the population.

Regarding the management of green areas in this general context, the municipalities will have to propose for the future, a number of large projects to increase surfaces and also the quality of green areas with effect on the quality environment and projects to create recreation and leisure areas in the urban planning policies, all with positive role on the health of the population.

The future of Cities, through the present realities, can be imagined as a way to one of the following urban development variants:

1) The Gray City - with neutral architecture and industry-specific characteristic of western European cities in areas with energy profile,

2) The Red City - with residential development through individual dwellings and an occupancy rate of the land very high functioning as zonal polarization center,

3) The Blue City - with commercial and financial development as a regional center having many buildings with glass surface and with associated shade color.

The alternative to these solutions of current trend is the development of green space with recreational and leisure facilities and maintaining the surfaces constructed at a level of 50% of the total development of each area. In this way it can be guided the development of the most viable alternative to urban development that can be called:

4) The Green Town – with integrated residential development and many green spaces. Orientation of these towns is towards commercial activities and service facilities and vocation of multiregional urban center.

Analyzing the alternatives listed above is clear that currently there are only zonal centers of polarization that have greatly expanded the residential function after they have long based their development as industrial centers.

[2] Palermo has passed through a crisis caused by the accelerated development of the real estate market, known as „sack of Palermo".

[3] According to the estimates of the Ministry of Health

4. Management of green areas in the urban environment

The evolution of urban areas in the last years has been characterized by a predominantly intensive residential development and an extensively industrial one, by creating the premises of a non-structured extension of the urban environment and a weal landscape arrangement. Based on this weakly planned development, it was gradually felt a crisis of the green space and of the pleasure areas arranged as parks and public gardens. The urban rearrangement of these urban areas will have to start from a well outlined strategy regarding the development of the green spaces and of the pleasure and leisure areas on the town territory, at the level of each developing area. This strategy will have to be subordinated to the general vision of balanced urban development on a medium and long term.

The vision regarding the integrated developments becomes: *The urban development as an integrated process, with an increased degree of balance between residential areas, industrial areas, commercial and service areas and landscaped green areas, a balance to ensure inter-regional development.*

In a sustainable strategy concerning the management of green areas and recreational and leisure facilities we shall highlight the absolute priorities on medium and long term to achieve the overall goal highlighted through the vision of integrated development.

The urban development priorities will be structured in the following directions:

a. Develop an integrated network of parks and green spaces,
b. Maintenance and development of existing green spaces,
c. Planning aquatic areas and land presently degraded,
d. Development of vegetation belts of street alignments,
e. Protecting natural heritage,
f. Improving the management of green areas and increase civic involvement.

The urban development has to be done on long term and due to that the ranking the actions as priorities will have to be done so it directs better the projects and the funds allocated.

Also for the duration of the sustainability strategy we should consider its structuring in three stages of compact development on which will be distributed the development priorities. Following the current situation and on the base of the proposals for action regarding the sustainability strategy of development of the green spaces and the areas for recreation and leisure we suggest the following strategic implementation schedule:

Table no.1-Development steps

Steps / Priorities	**2014-2015**	**2015-2020**	**2020-2025**
1. The creation of the integrated network of parks and gardens.			
2. The maintenance and development of existent green areas.			
3. The arrangement of the aquatic areas and of the degraded lands			
4. Developing street vegetation			
5. Protecting the natural and public patrimony			
6. Improving the management of the green areas and the civic engagement			

Legend

Absolute priority
Continuous development
Maintaining the actual level

There are several types of spaces that have potential for conversion into green spaces, landscaped as parks and gardens:

1. Compact areas of land, in new residential districts, areas from whose content are made current concessions;
2. Areas of floodplain areas, wetlands and lakes along the rivers, lakes and other waters, areas where we can not build;

3. Areas of industrial or commercial type arising from decommissioning of economic objectives, 4. Privately owned surfaces in all areas of development that can be donated to the public domain;

4. Terrain surfaces that have the potential to be arranged as green and recreation and leisure spaces and that can be arranged before the start of residential or economic development of the area.

The evaluation indicators of the impact can be:

- Number of operators involved in the rehabilitation and arrangement of green spaces;
- The value per landscaped project;
- The surface of degraded land included in the green patrimony of the city;
- Number of projects implemented by landscaping the meadow and hill areas,
- Aquatic surfaces rehabilitated and turned into green areas;
- Overall length of the street network covered with curtain plant;
- Number of trees planted along the street network,
- Parking surfaces integrated as green areas;
- Number of partners involved in projects;
- Number of projects for the upgrading of road network, implemented;
- The value of the projects of redeveloping the road network;
- Number of managed green spaces;
- Urban planning standards of the green spaces;
- The volume of total investment in green areas and spaces for recreation and leisure;
- The amount of income earned from the exploitation of green areas;
- Number of participants in environmental campaigns;
- Green surfaces included in the urban ecological system;
- Number of economic agents involved in the rehabilitation of green spaces;
- Number of people informed;
- Number of implemented projects for the upgrading of public green spaces;
- The value of green rehabilitation projects;
- Benefits derived from exploitation of green areas for tourism and recreation.

The expected results can be quantified by:

- Ending the phenomenon to steal land from natural channels ;
- The management system of degraded land,
- The implementation of development projects for new green spaces;
- The image of green city in urban areas;
- Road network covered with green spaces;
- The reduction of chemical ,noise and aesthetics pollution;
- Forest System balanced in residential neighborhoods of blocks,
- Civic involvement in landscaping the home street;
- Assurance system for future investment amounts in green areas;
- Functional system of monitoring and evaluating development programs of green spaces,
- A system of green spaces landscaped for leisure;

5. Conclusions

The urban development in the last 40 years has been predominantly characterized by intensive residential development and extensive industrial development creating premises of an unstructured extension of the urban environment and poor landscaping.

Based on this poor planned development it has been gradually experienced a shortage of green space and recreation areas as parks and landscaped gardens. The urban redevelopment will have to start from a well defined strategy in the development of green spaces and recreational and leisure areas from the territory of cities, at the level of each developed area. This strategy will have to be subordinated to the general vision of the short and long term urban balanced development.

Cities must provide access to a comfortable place to live in, a clean environment. Steps must be taken to increase large green areas landscaped as parks and gardens in addition to managing small green spaces such as square, in order to speak of modernization and rehabilitation of natural heritage for the public benefit.

Any city must be transformed into a European city where green space should be wanted, appreciated and maintained for each resident. For that will be promoted the establishment of an efficient urban green area management

and civic awareness. In order to do this will have to be developed a service, even specialized department to manage these activities and to become directly involved in various partnerships with the private sector.

Based on the development of an effective organizational system we will be able to develop and approve the action plan for green areas and even establish a Revaluation program of green areas for recreation and leisure facilities.

Based on this formalization there will be developed and implemented pilot projects for the development and operation of green areas. It is important to select a database of potential investors in projects to develop green areas. Investors will be encouraged to participate in these projects through opportunities offered for partnership exploitation of these areas.

In addition, municipalities in partnership with NGOs and various institutions, donors, businesses, can organize various activities and information and civic education campaigns for the population to become more aware and responsive to problems of urban spatial planning.

It is necessary even to create Consultative Councils, locally, regarding problems of 'green' development, council which will monitor and evaluate the quality of actions taken by municipal authorities in the field. The Council will present and publish regular monitoring and evaluation reports.

The community involvement is needed in the management of green spaces in order not to develop their practice of withdrawing from public property. Public opinion should become decisive in the problem of landscaping green spaces for recreation of children and also of adults and the elderly. It will also become mandatory to elaborate civic education programs for the inhabitants, hat have to be promoted in different institutions (kindergartens, schools, universities, businesses, etc.).

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