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## **Small Urban Centres in the Context of Sustainable Development**

### **1. Introduction**

Contemporary problems in cities are often related to the inevitable development of civilization as well as the overexploitation of the natural environment. We must note that an urban centre plays a special role as the basic link in the system of settlement – it can support either the growth of a region or its stagnation. Such interdependences are plain in sustainable development whose main objective is to satisfy the present and future generations' needs. The idea of sustainable development also assumes counteracting the worst ecological threats in the global scale, such as: environmental (air, water and soil) pollution, radiation, climate change (greenhouse effect), the destruction of ecosystems, noise, shrinking resources, the creation of artificial environments leading to many civilization diseases and degrading the natural environment [8]. "Generational experiences have confirmed the rightness of J.G. Pawlikowski's precursory statement. Around one hundred years ago, he said that concern with the proper condition of the natural environment should accompany every human activity" [1].

According to the United Nations report of 2001, cities use about 75% of the Earth's resources and 40% of energy in the world scale. They pollute 75% of the environment (45% of pollutions come from residential areas, whereas 30% – from transport). With the current consumption rate, natural resources will be used up within two hundred years. Such forecasts suggest the necessity of making any effort and taking any action which aim at improving the quality of the environment.

One of the concepts of an ideal city is a compact city – an economical unit with distinctive borders, easily accessible services, efficient transport and well-groomed green areas. A compact city shuts itself within its limits without absorbing any sub-urban areas. This concept is not far from the imaginations of the small town centre which guarantees easy access to cultural goods, urban attractions and public spaces.

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In order to evaluate the quality of the housing environment in the central zone of the selected towns located in the Province of Podkarpacie, some environmental research (surveys) and an urban analysis were carried out. They comprised all the small towns on the grounds of Podkarpacie, excluding Łańcut and Przeworsk which were examined in 2006 [2–6].

The survey results made it possible to specify those factors of a housing environment which the inhabitants regarded as the most important in the context of shaping health-promoting conditions in a place of residence.

The present condition of the housing environment was examined on the basis of the urban analysis. The field research helped us answer the question: To what extent do the analyzed towns respect the principles of sustainable development?

## 2. The Profile and Range of Research

The surveys were carried out in 36 towns, whereas the urban analysis – in 38 small localities in the Province of Podkarpacie in the central zone of: Baranów Sandomierski, Błaszowa, Boguchwała, Brzostek, Cieszanów, Dukla, Dynów, Głogów Małopolski, Iwonicz Zdrój, Jedlicze, Kańczuga, Kolbuszowa, Kołaczyce, Lesko, Leżajsk, Lubaczów, Narol, Nisko, Nowa Dęba, Nowa Sarzyna, Oleszyce, Pilzno, Przecław, Pruchnik, Radomyśl Wielki, Radymno, Ropczyce, Rudnik-on-the-San, Rymanów, Sędziszów Małopolski, Sieniawa, Sokołów Małopolski, Strzyżów, Tyczyn, Ulanów, Ustrzyki Dolne and Zagórz. In Ulanów and Przecław, only an urban analysis was done.

The survey made it possible to specify those factors which the inhabitants regard as the most influential for the quality and health-promoting character of a housing environment. The forms were sent to primary schools in all the thirty-eight towns. In the case of bigger centres, the forms were distributed in two schools within one town. In the case of small centres, the surveys were sent to one school within one town.

Twenty-eight factors were assessed: (1) urban composition (layout), (2) aesthetics, (3) the kind, diversity and amount of greenery, (4) the view from a window, (5) shared space management, (6) mesoclimate, (7) additional illumination in urban interiors, (8) airing hygiene, (9) access to primary services, (10) access to educational institutions, (11) access to community centres, (12) access to clinics and chemists, (13) access to sports and recreational facilities, (14) access to transport services, (15) the presence of playgrounds for children, (16) a utilitarian programme for playgrounds, (17) the presence of green areas, (18) a utilitarian programme for green areas, (19) intimacy and quiet, (20) safety, (21) the presence of water layouts (objects), (22) the presence and size of a backyard, (23) the nearness of integral spaces, (24) the presence of natural elements, (25) the view of natural elements from a window, (26) the presence of monuments or other valuable and unique objects, (27) the possibility of

social cooperation in shaping a shared space, (28) the possibility of shared management of the environment in a place of residence.

The urban analysis was carried out in three characteristic zones: the historical centre which was not always present; complexes of multifamily buildings – blocks of flats (which were not always present, either); detached houses (freestanding objects in private gardens). The housing environments were also evaluated from the perspective of fulfilling conditions in the field of sustainable design [6] which makes an important trend of keeping urban growth up.

The inconvenience of noise resulting from the intensity of vehicular traffic was examined, too. It makes a serious threat to the direct centre in most analyzed towns. A motorway or a provincial road often stretches in the vicinity of the market squares. Introducing vehicular traffic to the market square itself is a commonplace phenomenon as well. A road which crosses the market square divides it into two independent parts which endangers safety, makes a lot of noise and has a negative impact on the spatial layout of a place (e.g. Głogów Małopolski). Another negative phenomenon is the introduction of extensive car parks in the historical space of a prestigious market square (e.g. Lesko). Such solutions allow vehicular traffic in the town centre where it should be limited considering the presence of monuments as well as noise and jeopardized safety. W. Pęski draws our attention to the evaluation of intensiveness concerning the concentration of residential complexes. In the case of market squares or areas dominated by freestanding houses, this concentration is restricted. Long distances between the objects are preserved. Even in the case of blocks of flats, vast green areas between complexes are present. Undoubtedly, it is a characteristic feature of small towns. In bigger urban centres, a strong concentration of objects forming contemporary multifamily complexes (e.g. Żabiniec or a housing estate at Słomczyńskiego St. in Krakow) can be often observed. The accessibility and sufficient size of green areas is a positive phenomenon which was also examined while assessing the quality of conditions supporting the sustainable development of the towns, mostly their residential parts. Extensive green areas are located in all the towns under analysis. Parks and greens can be even found in the market square. Few towns have individual elements of greenery in the very centre, such as lonely trees situated in special places (Kołaczyce, Dukła, Sieniawa). A positive element is the scale of – usually one-storey – houses constructed on the border of the central zone and tenements in the market square (up to two storeys). In the case of the market square, there are some individual service objects which slightly exceed this height. Blocks of flats usually have three or four storeys. Two-storey multifamily buildings are located in Cieszanów, Dukła, Lesko, Narol, Przeclaw, Rymanów and Sieniawa only. The elementary problem is not the scale of the objects but their esthetics and monotony. A new complex in Boguchwała with its well-groomed surroundings and suitably developed social spaces is an exception. The area of multifamily housing is often characterized by illegibility in the field of spatial segregation on account of its functional division. An amusement social space is not clearly separated from

a public space which fulfills the transport function. Frequently, open green areas between blocks of flats are completely undeveloped and lack an intended use (the area of multifamily housing in Sędziszów Małopolski). There is certainly a lot of greenery which automatically gives a chance of recreation and relaxation. Unfortunately, the management of green areas is poor. Both the market square and the area of detached houses encourage people to become identified with their living environment. The area of multifamily housing may facilitate such conditions only in the presence of vast green areas.

Another evaluated element is the transport layout. Generally speaking, the technical condition of transport sequences is satisfactory. The abovementioned intensity of vehicular traffic in the direct centre and car parks located in the market square are problematic. The areas of detached houses and multifamily buildings lack double pavements which could considerably improve transport.

The surveys made it possible to specify factors of low or high importance for shaping a quality housing environment according to the residents (Fig. 1). Each factor received its number which is explained in the preceding text (research profile).

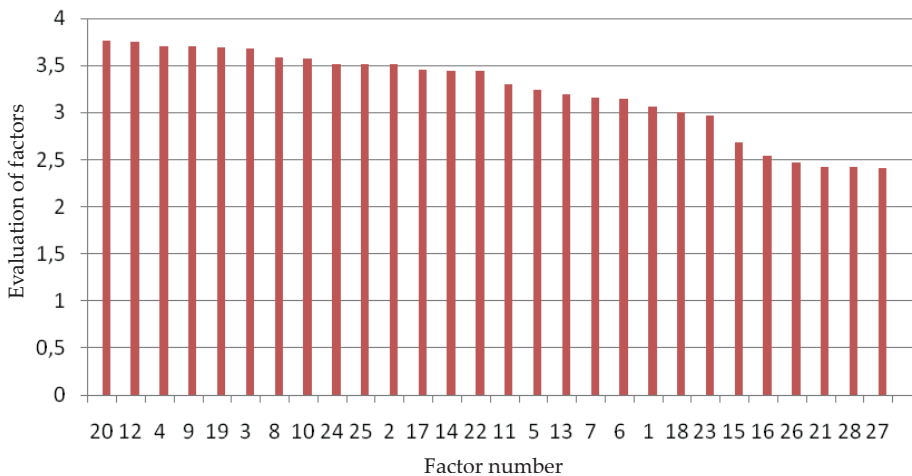


Fig. 1. Evaluations of factors

The small town dwellers show favour to the following factors: the view from a window, access to clinics and chemists, safety, the view of natural elements from a window, the kind and diversity of greenery, airing hygiene, intimacy and quiet.

Factors of average importance include: access to primary services, the presence of green areas, the presence and size of backyards, the presence of natural elements, access to educational institutions.

Factors of low importance include: esthetics, access to community centres, access to sports and recreational facilities, the presence of playgrounds for children,

a utilitarian programme for green areas, the nearness of integral spaces, the presence of monuments or other valuable and unique objects.

Factors of very low importance include: the possibility of shared management of the environment in a place of residence, the possibility of social cooperation in shaping a shared space, the presence of water layouts.

### 3. Conclusions

On the basis of the urban analysis and the environmental research results, we can state that the central zone of Podkarpacie's small towns realizes some of the principles of sustainable development, including a high-quality housing environment. The small town dwellers place special emphasis on the following factors which determine a healthy living environment: the view from a window, intimacy and quiet, safety, access to clinics and chemists, the accessibility and sufficient size of green spaces. The urban analysis lets us conclude that the selected residential areas guarantee access to green spaces. In the small towns of Podkarpacie, these areas are characterized by very good conditions. They appear in the form of a park, a (market) square or an open green space (an area with multifamily buildings – blocks of flats). In areas with detached houses, greenery assumes the shape of private gardens whose arrangement and function are adjusted to individual needs. Another highly evaluated factor is the view from a window. In this case, we may presume that it is attractive in the analyzed housing environments. It results from the presence of extensive green areas (the view of greenery) as well as long distances between the buildings. Small towns guarantee easy access to clinics and chemists. These objects can be often found in the direct centre as well as in some remote areas. We can also assume that resident expectations concerning safety are satisfied. The respondents positively assessed the state of safety in their own housing environments. To the largest extent, it is endangered by wrong transport solutions.

Intimacy and quiet were highly evaluated, too. The selected dwelling environments come up to the conditions as far as the feeling of quiet and privacy is concerned even though it is often disturbed by vehicular traffic. The nearness of roads with intensive traffic which emit troublesome noise is a commonplace problem in the centre of small towns located in Podkarpacie. It is frequently present in areas dominated by detached houses.

The least important factors are ignored in the analyzed towns. Their inhabitants do not seem to attach significance to the common good. They do not feel the need for using the potential of cooperation in the management of their housing environment. A rather surprising conclusion from the survey results is the fact that the presence of water layouts is virtually unimportant to the residents of the selected areas. Perhaps, it stems from the presence of a number of natural reservoirs in the Province of Podkarpacie. Nevertheless, when we realize that this region has a multitude of

green areas, it could seem that they are underestimated but the truth is quite opposite. Maybe fountains or other forms of water layouts are treated as unnecessary attractions which do not contribute much to the improvement of living conditions. Water layouts have a positive impact on the visual values of a place but they do not really matter to the respondents.

When we analyze the research results, we ought to note that an urgent environmental need is not just attention to the current state but also lookouts for the future. Such a necessity results mainly from the shrinkage of nonrenewable resources of energy as well as an increase in illnesses caused by allergies and bad psychophysical condition. Thus, sustainable design and attention to sustainable development is everyone's duty and a hopefully effective countermeasure for the problems of ecology. Respect for green areas and the skillful formation of a housing environment, including economical management of natural resources, seem essential.

All the examined towns have great chances of implementing sustainable development smoothly in accordance with the principles of shaping a friendly housing environment. What we need is awareness in this theme as well as willingness to act and reduce the threats of improper transport solutions to a minimum.

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