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To cite this article: Krystyna Paprzyca 2019 *IOP Conf. Ser.: Mater. Sci. Eng.* **471** 102024

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# Sustainable Development of the Medium-Sized City on the Example of Oswiecim

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**Abstract.** The primary objective of the city is to provide a high quality of life of the residents. It is one of the reasons behind the migration of the residents, causing an outflow of the people or attracting them. Moreover, needs and requirements connected with the inhabited area are undergoing a constant change. All of the decisions taken in the cities and concerning their development are connected with the quality of the living environment and the quality of the urban space. The condition of the urban and natural environment has an important impact on the health and safety of the residents. The promotion of the city's development with protection of land against the urban sprawl, with respect for the cultural heritage, efficient infrastructure and social balance has become the main task of the medium-sized cities. Spatial structure of Oświęcim was determined by the development of Oświęcim Chemical Company. Multi-family housing units, together with the necessary services were created in the near vicinity of the company. The attention of the local authorities was directed on this part of the city called the estate. At that time, no investments in the historic part of the city were made. Oświęcim is an old town, with the history that dates back 800 years. The Old Town remained underinvested for a long period of time, which is visible to this day. The tragic heritage of Auschwitz – Birkenau, a former Nazi Concentration Camp has significantly shaped the image of the city, and historical legacy of the city remains in its shadow. This uneven development of the urban structure resulted in a number of social, spatial, economic and environmental problems visible today. Using sustainability in order to provide integrated development to urban areas has become one of the most important tasks of the city's development. "Sustainable development" perceives the city as a complex, connected and dynamic system, with many interacting processes of social, economic and spatial development. Numerous activities undertaken in Oświęcim are aimed at sustainable development of the city. This article presents selected actions which increased the attractiveness of the Old Town and its surroundings. The presented program is a part of the land development strategy called "Oświęcim Space for Meetings" prepared for the area located along the Soła river and the Old Town district, which are to serve the residents and tourists visiting Auschwitz-Birkenau National Museum. The areas selected for the program will undergo revitalization activities that will improve the quality of the urban space. There will be friendly, integrating green public spaces, and the areas will be activated by making them "attractive" also for newcomers – the tourists.

## 1. Introduction

Cities should be places where one wants to live. The city's overriding goal is to strive for a high quality of life for its residents. Sustainable urban development, urban design, construction, and transport are reflected in the social dimension. Medium-sized cities like Oświęcim face many problems: the ageing of inhabitants, the outflow of young people, high levels of migration, insufficient development of



entrepreneurship, etc. Currently, the attention of the local governments of many small and medium-sized cities is directed at projects that lead to the improvement of the quality of life and residence. These activities are focused on improving the quality of the spatial environment. [1]

The author presents the aspects mentioned above on the example of the city of Oświęcim, proving that the city follows the path of sustainable development. The aim is to attempt to increase the well-being of the residents, by providing to a wide spectrum of their needs. The economic aspect is put forward in all actions undertaken to improve urban areas. The correct approach to the changes and the development of the city is aimed at highlighting the roles that authorities, investors and the local community have to fulfil. The activities that concern both spatial policy and land development based on innovative, competitive and sustainable development systems are of great importance.

The high quality of society's life is visible not only at the level of consumption of goods but also in the quality of the built and natural environment. The quality of the urban environment determines a lasting relationship between a man and his place of residence [2]. A city is like a living organism that undergoes natural changes and transformations associated with urban fabric, but also with the number of inhabitants. It results from the variability of the structure of the population living in a given area, as well as the social roles of the people. The needs change, individualism and the desire for possessions and materialism [3] become the phenomena that drive de-urbanisation. Any burden related to the deterioration or degradation of the quality of the environment causes negative effects such as diseases, as well as the transformation or destruction of other ecosystems. Cities are important in achieving global ecological sustainability. To a large extent, they contribute to the production of the greenhouse gas and climate change. Worldwide urban centres produce about 80% of CO<sub>2</sub> emissions. Cities have always been built for people and formed through use. The population is one of the measures of urban development. Theories of the development cycle emphasize that the dynamics of urban development are shaped by changes in the patterns of population distribution [4].

## **2. Review of major legislative achievements**

The experience and achievements of the European Union in the planning and development of the cities and the increase in the quality of the urban environment can be applied in towns, inner-city and urban districts. All activities are guided by principles of sustainable development, which strives to harmonise, balance and coordinate three factors: social, economic and environmental development. Many documents have been created that relate to the policy of sustainable development.

- 1987 The Brundtland Report (World Commission on Economic Development) was the first global request addressed to the issues of sustainability.
- June 3-14, 1992 „Earth Summit "Conference of the United Nations “Environment and Development " in Rio de Janeiro.
- 1994 r The Aalborg Charter, created under the influence of the first European conference, also covered the subject of sustainable development
- June 14, 1996, United Nations Conference on Human Habitats, HABITAT II, in Istanbul

During the Conference in Rio, Agenda 21 was adopted, containing a set of tasks and guidelines for activities that should be undertaken at the turn of the 20th and 21st centuries to ensure durable and sustainable development. The "Habitat agenda" adopted at the Istanbul Conference established the directions of activities aimed at providing the villages and cities with the ability to develop in a durable and sustainable way.

All these documents promoted lasting and sustainable development, as well as the improvement of the quality of life and the environment, perceived as joint tasks in promoting European cities. The reports concerned the future and argued that economic development and environmental relations at the local level are the foundation of sustainable development. Cities are the first economic, spatial unit and affect the environment, which means that achieving sustainability at the urban level is a decisive factor.

The tasks related to improving the quality of the urban environment and related to sustainable development should include, among other things:

- sustainable city management,
- sustainable urban design,
- sustainable construction,
- sustainable urban transport [5].

Urban development requires a constant inflow of necessary development factors such as financial capital, technology, information, and workforce. Acquiring them is often the goal of all marketing activities. An image of the city is created based on the values related to the attractiveness of a given area.

**Sustainable city management** is one of the strengths necessary to create a high quality, healthy urban environment. It is connected with aspects related to the use of energy, greenhouse gas emissions, water treatment and consumption, waste management, air quality, etc.

**Sustainable urban design** covers all issues that relate to the form and type of spatial management in the city, and it is an essential determinant of the city's character. It also affects the quality of the environment and the quality of life of the residents. Decisions related to spatial management should protect the city's identity, as well as its cultural heritage.

**Sustainable urban transport**, all actions are focused on problems related to the spread of cities and the increase in their transport intensity. The length and time devoted to travel, traffic congestion, energy consumption, and exhaust emissions are increasing, which entails a number of negative consequences for the urban environment:

- a large number of road accidents,
- increase in exhaust and noise emissions,
- overloading of streets impedes their throughput,
- excessive use of areas for transport purposes,
- sedentary lifestyle. [6]

The aim of transport policy is to create optimal conditions for efficient, economically effective transport, with the limited harmful effects on the environment. It also facilitates bicycle and pedestrian traffic.

**Sustainable construction** is an important issue related to sustainable urban development. It is perceived through the prism of ecological functionality, expressed in the consumption of energy and waste production. The design and use of materials and construction methods that are environmentally friendly are of great importance for the quality of the urban environment.

### 3. Sustainable urban design – the city of Oświęcim

The vision of sustainable urban development combines the activities of many specialists: planners, designers and process managers, and the aim is to create a beautiful, healthy and socially integrated environment. It contributes to the promotion of valuable, economic development, the protection of land against the uncontrolled development of new buildings, and respecting cultural heritage and society. It also stimulates a high-quality transport system and well-planned public infrastructure.

Environmental hazards affect and even force more compact solutions of urban forms, which contribute to the reduction of the traffic volume. However, compact urban forms reduce the area of open spaces and affect the strengthening of social interactions. They lead to the revival of urban spaces, better accessibility to facilities, and improved use of public transport. Dense urban forms also have negative aspects such as the reduced amount of green areas.

Sustainable urban design affects the quality of urban space [7]. Public living centres create sustainable neighbourhoods, with a strong local community. Some spaces of historical value are elements of civic education, the pride of society, giving the city its identity.

Sustainable urban design can be analysed through neighbourhood and location features. The Old Town area in Oświęcim and the surrounding area are great examples, useful for such analysis. [8]

The neighbourhood is considered as economically sustainable when its potential is fully utilised both in relation to places of residence and amenities in the form of shops, schools, clinics and public transport. These features have a significant impact on the use and value of individual residential properties. Spatial order and architectural values of neighbouring buildings are not without significance for the users of space. [9] The district offering more green areas with blind streets and the irregular grid is far more popular among the residents. The neighbourhood is created by homogeneous groups of people linked by specific social ties, behaviours, preferences, as well as material and socio-demographic conditions [10].

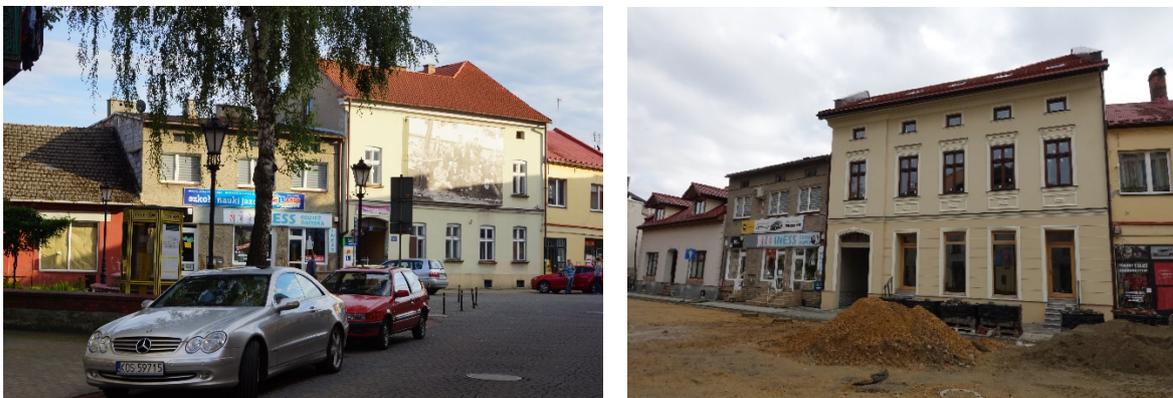
Oświęcim is an old town with the tradition that dates back 800 years. The Old Town district, its urban layout and monuments are a testimony to history. Until the renovation, this part of the city was characterised by a poor technical condition of the buildings and underinvestment of technical infrastructure, caused by the uneven development of the city, as well as the age and technology of construction. Among the residential buildings as many as 41 come from before 1945, 12 were built in 1946-1989, which created the need to carry out renovations, reconstructions, modernisation and exchange related to the technical condition of buildings, and their equipment.

In recent years' gradual modernisation included the Old Town [6] with The Market Square and surrounding technical infrastructure (Figure 1), as well as many buildings owned by the State and the residents.



**Figure 1.** Modernised market Square in Oświęcim (author's own picture 2016 )

Many "empty tenement houses" located in the Old Town have been modernised and inhabited. For example, devastated tenements at the corner at Klasztorna Street (Figure 4, 5) and Mały Rynek (Figure 2, 3). Similarly, tenements at the corner of Sienkiewicz Street and Mickiewicz, where repairs, demolitions, and modernisation activities were carried out by the Social Housing Association. Moreover, the City has also made significant investments in this area, connected with the replacement of heat sources, which are one of the largest emitters of harmful substances.



**Figure 2, 3.** Mały Rynek tenement, the year 2014, the year 2017 (K. Paprzyca 2014, 2017)



**Figure 4.** Oświęcim. Devastated corner house at Klasztorna street and Mały Rynek (K. Paprzyca 2013)



**Figure 5.** Oświęcim. Renovated corner house at Klasztorna street and Mały Rynek (K. Paprzyca 2015)

Activities related to the development of "empty tenements" and carried out by the Social Housing Association (TBS) have a beneficial effect not only on the quality of urban space but also on the structure of the population living in this area. The area of the Old Town is inhabited by 2018 people, which is 5.12% of the total population of the city. The population structure is characterised by a decrease in the number of people in pre-working and working age, which indicates the ageing of the population. The area of the Old Town is characterised by the highest values of indicators related to recorded offences. Therefore, it can be considered as a concentration of pathological behaviours. The intensity of unemployment is also higher than in other parts of the city and indicates the large scale of the problem. The activities undertaken by the city and the Social Housing Association of Oświęcim, will increase housing stability in this area, and expand the housing offer for the medium-income group as well as young and middle-aged people.



**Figure 6.** Land development along the Soła River, (K. Paprzyca, 2015)

The actions of the city self-government are aimed at activating the areas of the Old Town, as well as recreational areas along the Soła River Figure 6. They are the meeting places for all social groups, important in creating a strong local community [11]. They are places of rest, children's play, or social meetings, contributing to the improvement of the quality of the environment, the quality of the place of living, but also to the improvement of the of the resident's health, [12].

#### **4. Sustainable building**

The quality of the housing environment depends on the level of minimisation of environmental pollution created by the components produced by the building construction. They concern the formation of smog, acid rain, and pollution of the earth, water and air. Buildings have a significant role in these priorities.

They consume energy for heating, which becomes a source of gas and chemical emissions to the atmosphere. According to the studies, by increasing the energy efficiency of the building, one can save a minimum of 20-30% of the energy (sometimes up to 50%).

The problem of high energy efficiency of buildings becomes important due to the fact that in Poland, a significant share of housing resources is old. Nowadays a building should not generate additional costs associated with the destruction of the natural environment and should not reduce the quality of life for the residents. In order to achieve a quick improvement of the quality of the residential environment, it is necessary to undertake all activities related to the management of energy efficiency in buildings, saving water and energy consumption. It is also important to use materials and products that minimise environmental damages. Sustainability in the sense of longevity and an environmentally friendly building construction are important features of the design.

### 5. Sustainable urban transport

Communication is one of the main causes of air pollution in the cities. Urban transport and its quality are a consequence of the growing problems related to the urban sprawl and the increase in the transport intensity. Environmental hazards created in cities forced more compact urban forms, with concentrated functions, which has a positive effect on the limitation of the traffic volume and therefore the reduction of the pollution.

Transport connected with accessibility depends on many aspects: the individual transport system in the city, its characteristics and how it works in relation to services and facilities. A significant feature of the availability is the connection between home - place of residence and work or the city centre, the main commercial facilities, other services and other facilities at the neighbourhood level, such as school, medical centre, shops. The urban transport system, which is oriented towards sustainability, requires "multimodal", sensitive planning and street designing. It is based on the goals that focus on improving the quality of life and residence associated with the protection of the environment and should support the use of such means of transport as car, bicycle, or walking.



**Figure 7.** Modernisation of the Olszewski street Oświęcim. (K. Paprzyca, 2015)

All redesigned streets have a significant impact on improving the physical activity of their users, which also affects their health. Most of the streets in Oświęcim have been modernised, and economically rational solutions have been introduced. They also recognised social expectations regarding accessibility to environmentally friendly, modern public transport. (Figure 7) [11].

### 6. Conclusions

The development of many cities, dominated by the phenomena of globalisation, privatisation, the free market, led to their uncontrolled growth. It has also contributed to additional costs related to the quality of life and residence in the city. The forecasts about the worsening inequalities between the social groups regarding the standard of living and the continuation of the style of consumption are disturbing. The

changing needs and their individualisation, the speed of transformation, temporariness and many other phenomena characterising our times forces the city authorities to concretise the vision of urban development, also oriented on the sustainable development.

There are some features that indirectly influence the development of the cities in a significant way:

- the order of urban space understood as beauty, composition, order, readability, ease of identification with people and place.
- sustainability, understood as a city for people, caring for the preservation and enhancement of biodiversity, limiting pollution of water, air, soil, the city of active people.

The community in the context of sustainability represents a certain capital, related to a given place, providing a sense of security, stability, durability, good quality of life. Social sustainability is reflected in the high level of neighbourhood satisfaction and positive assessment of the local environment. The approach to the processes of urban change and development is focused on recommendations for spatial policy in terms of sustainable activities.

These recommendations relate to sustainable activities:

- city involvement in the interdisciplinary projects, innovative solutions,
- management strategies related to the long-term effects,
- urban marketing,
- innovative management of land, people, finances,
- a system of benefits and incentives,
- information as a popularising tool.

Educational recommendations:

- interdisciplinary, integrated process of education,
- raising public awareness of the residents,
- social awareness about obtaining certain environmental benefits as an element of social support and engagement for the proposed solutions.

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