SOCIAL AND ECONOMIC ASPECTS IN CITY MANAGEMENT IN CONTEXT OF SUSTAINABLE DEVELOPMENT

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Abstract: The article presents the issue of implementing sustainable development in cities with particular emphasis on the economic and social aspects, which together with the environmental one constitute the three pillars of this very concept. The most important social and economic problems of the world's largest cities are presented, as well as the current strategies of cities such as Singapore, London, New York and Dubai, which perform particularly well in these categories. A section analysing the operating effectiveness of cities on the basis of the Arcadis Sustainable Cities Index is presented.

Keywords: development in cities, managing cities, sustainable development in the city
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Understanding of the concept of sustainable development

The concept of sustainable development dates back to the late 1960s and early 1970s when a breakthrough took place in thinking about the natural environment and its links with social and economic development. It was argued that the concept of development oriented solely towards the growth of production and consumption was associated with over-exploitation of nature and deterioration of the natural environment. Increased awareness of this issue and the activities of environmental movements in those years led to support for environmental policy in a number of countries (Rokicka, Woźniak 2016, p. 6).

However, as early as the 1980s it became clear that humanity could not limit itself to taking care of the environment. The process of mainstreaming development issues into environmental considerations and integrating ecology into development concepts began. This is how the concept of sustainable development was born with its main characteristics maintaining that social and economic development does not interfere with the functioning of ecosystems. Sustainable development criticises economic growth, stressing that the latter is supposed to be based on efficient use of available resources, while development is to be associated with a change in productivity generating new resources necessary for dynamic growth (Bojar, Paździor 2013).

The origin of the concept and the way in which it has evolved make it a multi-layered concept that can be interpreted and understood differently. At the level

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of the enterprise, different models of introducing sustainability concepts are distinguished, which - depending on the approach to sustainability - are divided into "weak" or "strong" (Seroka-Stolka et al. 2017, p. 122). At the level of local government, the remarkable capacity of this concept makes it possible to shift emphasis within the three components - ecological, social and economic aspects - depending on the individual's ability to achieve sustainability through particularly intensive activities within one of these areas (Grabowska 2016, p. 105). This is often the case in cities, which can be called 'sustainable' thanks to their hard work not only in the area of ecology but also in the social and economic spheres.

Characteristics of the management of contemporary large cities and its implications for introducing the idea of sustainable development

Modern cities are becoming not only a product, but also a supplier of goods for which an inhabitant, an entrepreneur, a tourist, being in a sense a customer, pays through taxation, and as a customer, is therefore a subject of territorial marketing (Rurański, Niemczyk 2013, p. 67). There are various factors that determine the attractiveness of a city, among which its logistics system comes first (Nowakowska-Grunt, Chłąd 2015, p. 128). The features of the city which determine its attractiveness also contribute to the phenomenon of urbanisation, i.e. urban sprawl. This in turn, is due to a large number of diverse job vacancies, standards of living and housing that are often higher than in other places (especially than in rural developing countries), access to health, educational, cultural and financial facilities, educational opportunities, cosmopolitanism and communication being made much easier. Modern cities, regardless of their location, are becoming not only "islands" of a higher standard of living and management efficiency, but also centres where innovations are most quickly adapted, processed and transmitted in all kinds of activities and operations (Komorowski 2000, p. 22). Hence the concern for their development and the efforts of many people and institutions to effectively overcome emerging developmental obstacles.

On the other hand, urbanisation is associated with negative phenomena in both the social and economic spheres. They include, for example:

- slums (districts of poverty) arising as a result of internal migration of the population, when newcomers often find no jobs or only casual jobs (as the development of slums does not contribute to the development of urban functions, it is sometimes referred to as apparent urbanisation), insufficient development of technical infrastructure (especially inadequate sewage systems) which leads to the risk that the inhabitants of slums are threatened by gastrointestinal diseases including cholera or dysentery; insensitivity (including weakening of social control) and weakening of people to people contacts, which can lead to increased aggression, and together with job insecurity can lead to increased crime, consequently reducing the sense of security and creating closed neighbourhoods, while alienating individuals can lead to the spread of social pathologies such as alcoholism and drug addiction;
the problem of homelessness (the result of immigration, alienation or gentrification of districts previously inhabited by poorer people now increasingly inhabited by better-off people, results in higher rents and evictions or poorer people moving out of the neighbourhood);

congestion of transport infrastructure in cities resulting from an increase in the number of cars. This causes traffic jams, which make it difficult for residents to commute and increase the risk of road accidents. In addition, there is a serious shortage of parking spaces.

These problems must be addressed by skilfully managing the city in which they occur. Cities are made up of people, and it is their social and economic needs that must be respected if sustainable development is to be possible, based on respect for the most important aspects of life. Managing the process of urban development must also be based on controlling demographic and urbanisation phenomena. Only by carrying out measures that are socially and economically beneficial will it be possible to achieve a rational population policy. Especially in cities threatened with population overgrowth, it should be remembered that such measures should be of a long-term character (Kowalewski 2005, pp. 124-125). A breakthrough in the political approach to the issue of development was the 1992 United Nations Conference on Environment and Development (UNCED), also known as the Rio de Janeiro Earth Summit, which concluded with adoption of the Rio Declaration and provided the broadest definition of sustainable development. Sustainable development is a process of social, economic and environmental change that strikes a balance between the benefits and costs of development for future generations, and thus 'reflects the policy and strategy of continuous economic and social development without harming the environment and natural resources on whose quality the continuation of human activity and further development depends' (Local Agenda 2001). Social inclusion must be part of such sustainable development. Eliminating the disadvantages associated with the expansion of urban communities is one of the priorities of global development, enshrined in a number of international documents in the aforementioned Rio de Janeiro Earth Summit (1992), but also in such documents as the Territorial Agenda of the European Union (the so-called Leipzig Charter) created at the Informal Ministerial Meeting on Urban Development and Territorial Cohesion (2007), the Lisbon Treaty (2007), and the renewed EU sustainable development strategy (2006). Cities set themselves the goal of broadly understood sustainable development, which - as a concept - is understood and implemented in various ways.

In 2003, the European Council of Town Planners published the so-called "European Urban Development Plan" called the "New" Charter of Athens, which was a comprehensive vision of European cities in the 21st century proposing ways to eliminate or at least reduce the problems outlined above. These problems are, of course, much more difficult (if not impossible in the short-term perspective) to be remedied in the cities of developing countries (especially in Africa), which are currently experiencing a stage of urban explosion and development of high-poverty districts mainly.
Urban problems are multidimensional and arise in a complex network of social, economic, environmental and political relationships (Güell, López 2016, p. 455). In addition, cities operate in turbulent environments. This results in a number of problems in implementing the concept of sustainable development. In practice, these difficulties may result from the fact that practitioners (broadly understood as people responsible for forecasting) have difficulties to understand the complex and dynamic nature of modern cities (Güell, López 2016). However, the complexity of urban processes and their diversity are two of the most important features of modern cities (Güell, López 2016), and cities are treated as the best example of systems with non-linear dynamics and being capable of self-transformation. Cities are therefore examples of comprehensive systems (Batty 2005; Portugali et al. 2012) and a sustainable city must recognise the needs of everyone, both residents and visitors, present and future, by managing resources rationally (Mierzejewska 2008, p. 57). Another feature of modern cities is the fact that changes do not occur in cities sequentially, but simultaneously (many processes occur simultaneously). At the same time, cities are part of larger systems, made up of many cities linked by complex and numerous economic, social and spatial interrelationships (Kott, Sukiennik, Grondys 2016, p. 11).

The city therefore requires a different approach to sustainable development, namely a generally accepted integrated approach, including social, economic and environmental dimensions, often additionally taking into account spatial and institutional aspects (Kościcielnik, Skowron-Grabowska, Grabara 2017, p. 29). This approach assumes that none of the above-mentioned areas of human activity (social, economic or environmental) will develop at the expense of the others (Mierzejewska 2015, p. 6). Hence, it can be assumed that sustainable urban development is about achieving a certain level of system equilibrium (Wiśniewska-Sałek 2016, p. 29). It should also be noted that the concept of a sustainable city is part of a new form of urbanism, which promotes a slower pace of life for its inhabitants, while guaranteeing security of employment and living conditions (Wojnowska-Heckiak 2012).

**Performance analysis on the basis of the Social and Economic Category of the Sustainable Cities Index**

The aim of this paper is to analyze selected strategies of sustainable development of the social and economic categories implemented in cities. The analysis was based on the Sustainable Cities Index developed and made available by the Arcadis Group (Arcadis 2015; 2016).

The essence and purpose of city rankings is to compare them and provide information about their competitiveness, as well as their strengths and weaknesses (Tomski 2017, p. 189). Giffinger and others point out that rankings are a good source of knowledge for investors in their choice of location and it can be an important guide for the cities to judge their strengths and weakness and to define their goals and strategies for future development. Rankings of cities draw attention to the problem of cities, stimulate discussions on urban development strategies, and contribute to greater accountability of city authorities for their decisions. On the
other hand, they also have drawbacks: they tend to neglect complex interrelations and causalities, are mainly discussed with regards to final ranking, may threaten long-term development strategies, strengthen existing stereotypes and are ignored by badly ranked cities (Giffinger, Kramar, Haindl 2010, p. 1). In addition, a ranking is worthwhile if lists are drawn up regularly because cities are dynamic entities and data quickly become outdated. For this reason, many rankings are repeated annually.

There are many rankings of cities that rate urban centres according to different criteria. The best-known are rankings showing living conditions. These include the Most Liveable Cities Index, the Economist Intelligence Unit's Global Liveability Ranking, and the Mercer Quality of Living Survey and Smart cities ranking of European medium-sized cities, Best City Ranking. There are also rankings of other types, such as the Global Power City Index, or security, such as the Safe Cities Index.

The Arcadis ranking stands out against the background of the aforementioned and similar rankings with the guiding principle of sustainable development. This ranking is a global ranking and gives an overview of the situation all over the world, but it deserves attention, especially in the case of such a capacious concept as sustainable development. In practice, it turns out that a city can perform so well in one area that it will compensate for deficiencies in other areas and attain a high score. The full rating is based on 32 indicators and is divided into a general classification and classifications in each of the three sub-indices (social, environmental and economic), taking into account different factors in each of them. The social sub-index includes demography, education, social inequalities, work-life balance, crime, health and cost of living, while the economic category concerns factors related to public transport, economic development, ease of doing business, tourism, mobility and employment.

The number and variety of examined factors affect the positions of cities in different sub-indices. A high position in the overall ranking does not necessarily indicate a good position in all the sub-indices, and vice versa. There are cities that lead the way in only one category or a few sub-indices, which determines their final place in the ranking. The top 10 sustainable cities achieved different positions in different sub-indices in 2016. Seoul, for example, is the seventh city in the overall ranking, leads in the social sub-index, but in the others it ranks 26th and 18th respectively. The highest position of Zurich is primarily influenced by its activities and location in the environmental or economic sub-indices. Singapore owes its second place to the excellent implementation of its activities comprised in the economic and environmental sub-indices. Looking at the categories, i.e. sub-indices of sustainable development, we can see where the cities are performing well and where they have the potential for further investment and improvement.

In the individual sub-indices, huge differences can be best noticed between the indicators achieved by the cities in relation to their positions in the general ranking. In the social sub-index, in terms of demography, three cities in the Middle East, i.e. Dubai, Doha and Abu Dhabi scored 100%. The cities with this lowest indicator are Paris, London and, for example, Frankfurt. The cities with the best performance in education are Boston, Seoul, London, Sydney, Chicago, New York and Singapore. Frankfurt and Warsaw are in the middle of the ranking with indicators of approximately 48%. Copenhagen, Stockholm and Prague are strong leaders when it
comes to tackling social inequalities. However, African Cape Town and Johannesburg are completely unable to cope with this problem, as are South American and Asian cities. Hamburg leads the way with regard to work-life balance. London, Frankfurt and Warsaw have similar figures of around 72%, while Singapore is in last place. Canberra, Zurich, Singapore and Frankfurt are the best at tackling crime. New York reached 70%, but is only ranked 86th. Asian cities such as Tokyo, Singapore, Seoul and Hong Kong have the highest health scores, followed by Zurich and Geneva. In Calcutta, India, as well as in other cities in the region, the cost of living is by far the lowest. Warsaw also achieves here a high rate of 78.3%. At the bottom of the scale for this particular indicator are global powers and metropolises such as New York, Chicago and Zurich.

In the economic category, its individual indicators include public transport, economic development, ease of doing business, tourism, mobility or employment. The best rated public transport is in Zurich, Singapore and Australian cities. For cities with a high population density such as Rio de Janeiro, Istanbul, Calcutta, Warsaw or Los Angeles, public transport is still a very important problem. Macao and US cities such as Boston, Washington or New York boast having achieved sustainable economic development. Similarly, a high rating is observed in Singapore, Abu Dhabi, Zurich, Warsaw and Frankfurt. The cities of Africa, South America and Asia are experiencing rather poor economic development.

The ease of doing business is becoming a key element for many cities. Singapore, New York and London are some of the most business-friendly cities in the world, unlike the most populated and least developed cities. As many as four Asian cities - Singapore, Hong Kong, Dubai and Macao - have found ways to make tourism sustainable. European cities such as Paris, London and Rome came high in the ranking. Interestingly, Zurich, Lisbon, Sydney, Frankfurt and Chicago are below expectations, nevertheless, they are in a much higher position when it comes to mobility. The best rated cities in the field of mobility were Dubai, London, Singapore, Tokyo, New York, Zurich and Frankfurt. The analysed cities also achieved high employment rates, where Warsaw is ahead of major global powers.

The Sustainable Cities Index presents a global vision, but there is a clear grouping depending on the region, demand and cultural conditions. Sustainable development measures need to be adapted to the circumstances of individual cities. Applying solutions which prove most effective in one place does not mean that they will be successful in another region of the world. For example, cities in the Middle East such as Dubai and Doha, face similar challenges including water scarcity, transport infrastructure and rapid growth. Singapore and Hong Kong have long been competing because of their position as thriving economic centres. European cities, including Zurich, Frankfurt and London, have similar high scores in the ranking, and the strategies adopted there are also linked to the objectives common to all EU Member States. The specificity and socio-geographical diversity of the United States set specific challenges for each region individually.
Faster developing cities face special challenges. The measures taken are not only aimed at sustainability, but also at achieving stability. Otherwise, with the same strategies, regulations and infrastructure, developing cities may be undermining sustainability as a result of increased environmental pressures. The consequence of faster growth in developing cities is that it is more difficult to implement sustainable measures. Table 1 compares the cities in terms of their projected expansion by 2030. The cities with high growth and relatively low stability are Dubai, Beijing, Shanghai and Singapore. The cities with low growth and high sustainability are New York, Chicago, Los Angeles and Sydney. Medium-sized cities are a mixed group, including both low and high sustainability cities such as Hong Kong, Rio de Janeiro, Frankfurt and London.

The long term perspective faces further population growth, which will expand the borderline of urban infrastructure. For example, Dubai is expected to double its population and London to grow by one fifth by 2030, creating new challenges for sustainable development.

### Table 1. Selected world's largest cities with growth rates and position in ranking of sustainable cities

<table>
<thead>
<tr>
<th>Position in ranking</th>
<th>City</th>
<th>Population in thousands</th>
<th>Expansion 2010-2015</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>2010</td>
<td>2030</td>
</tr>
<tr>
<td>33 52</td>
<td>Dubai</td>
<td>1.778</td>
<td>3.471</td>
</tr>
<tr>
<td>50 98</td>
<td>Nairobi</td>
<td>3.237</td>
<td>7.140</td>
</tr>
<tr>
<td>35 74</td>
<td>Shanghai</td>
<td>19.980</td>
<td>30.751</td>
</tr>
<tr>
<td>10 2</td>
<td>Singapore</td>
<td>5.079</td>
<td>6.578</td>
</tr>
<tr>
<td>2 5</td>
<td>London</td>
<td>9.699</td>
<td>11.467</td>
</tr>
<tr>
<td>1 6</td>
<td>Frankfurt</td>
<td>681</td>
<td>774</td>
</tr>
<tr>
<td>40 82</td>
<td>Rio de Janeiro</td>
<td>12.374</td>
<td>14.174</td>
</tr>
<tr>
<td>8 16</td>
<td>Hong Kong</td>
<td>7.050</td>
<td>7.885</td>
</tr>
<tr>
<td>11 21</td>
<td>Sydney</td>
<td>4.364</td>
<td>5.301</td>
</tr>
<tr>
<td>23 45</td>
<td>Tokyo</td>
<td>36.834</td>
<td>37.190</td>
</tr>
<tr>
<td>19 60</td>
<td>Chicago</td>
<td>8.616</td>
<td>9.493</td>
</tr>
<tr>
<td>20 26</td>
<td>New York</td>
<td>18.365</td>
<td>19.885</td>
</tr>
<tr>
<td>7 7</td>
<td>Seoul</td>
<td>9.796</td>
<td>9.960</td>
</tr>
<tr>
<td>5 19</td>
<td>Rotterdam</td>
<td>996</td>
<td>1.077</td>
</tr>
</tbody>
</table>

Source: Authors’ own compilation based on (Arcadis 2015, p. 26)
Outline of the strategy of selected cities in the field of sustainable development, including the social and economic categories

Singapore is now one of the largest financial centres in the world, a global hub and a place of choice for many international organizations that wish to establish their regional headquarters in Asia (Arcadis 2015, p. 25). As the best rated city in Asia and the second largest in the world, the city is active. Singapore is also the most sustainable city in economic terms. Much of its success has been built on a master plan that combines city planning with business and social requirements. A number of strategic initiatives are currently underway, which should ensure that the city continues to perform well. The measures are of a long-term nature, as evidenced by the significant financial investment in improving urban transport, with the population expected to grow to more than six million by 2030, and by improving the quality of life (Arcadis 2015; 2016, p. 28). Given the predicted ageing of the population, there is a strong emphasis on the development of new social infrastructures, including social welfare homes, specialised hospitals and nursing homes.

As the most sustainable city in the world, Zurich has a number of initiatives in place that set it apart from other cities around the world. Public transport in particular is highly regarded as a sustainable model for other cities. Trams, trains, buses and high-speed trains are well coordinated, making mobility simple, fast and inexpensive. As a global economic centre, the city is able to attract not only investors and business partners, but also potential residents and tourists. The high quality of life, attractive educational opportunities and employment in innovative companies are an important basis for the economy and development of Zurich. In addition, high productivity levels and low non-wage labour costs mean that production costs are lower than in competitive economies around the world. All this makes Zurich an attractive place to invest, live and work (Arcadis 2015; 2016, p. 10).

London is one of the world's leading economic powers, as shown by its third place in the economic category. The aspirations of Londoners are to make their city the best place to work, live, study, invest and do business by 2020. Providing a world-class infrastructure that meets the needs of the city is a key element of the vision. London will also need to change its behaviour when it comes to consumption, including energy, waste or transport (The Mayor’s Economic Development Strategy for London... 2017, pp. 22-30). The main problems that London authorities need to tackle are congested infrastructure and an ageing population, or the chronic shortage of affordable housing, air quality and the visible impact on climate change. London's population is expected to be 10 million by 2030, which is why improving the infrastructure capacity and providing the right number and type of homes to enable everyone to live and work is becoming crucial. 28% of the city's population lives below the poverty line, therefore addressing income inequalities and the high cost of living are two of the city's objectives, as is improving urban mobility, environmental remediation programmes and infrastructure (Arcadis 2015; 2016, p. 11).

New York, being the largest city in the United States, is a global center of international business and trade. The city has prepared a comprehensive plan of
PlaNYC, which aims to improve the quality of life for future generations. Social programmes have been implemented as part of the One New York plan. Almost 45% of the city's population live on the poverty line, which is why measures have been taken to raise the minimum wage, make housing options more affordable and improve access to education through introducing a free, universal pre-school programme. The city has also made significant progress in improving air quality and reducing greenhouse gas emissions, thereby also improving the quality of life. Due to new problems, the city puts emphasis on the development and modernization of infrastructure and improvement of commuting possibilities. New York's tourism industry, ease of doing business, and GDP per capita reinforce its position as a North American leader among sustainable cities (OneNYC 2017…, pp. 8-118).

Dubai is developing more sustainably than other cities in the Middle East. It is widely recognized as the most developed city in the region, a global business centre and a world-class tourist destination. With its fourth place in terms of economy, Dubai is today considered the capital of the Islamic economy and the preferred destination for foreign direct investment in the Middle East. Due to its planned economic growth, Dubai is to become the most economically powerful city in the world. The aim of the city's "Dubai Plan 2021" is to create a city of happy, creative and powerful citizens. Dubai currently ranks highly with regard to many economic indicators, in particular tourism, mobility and employment (Arcadis 2015; 2016, p. 30).

Conclusions

In order to be sustainable, cities must be sustainable in the long term. Since this is a phenomenon which is dynamic both in terms of time and space, it is absolutely crucial that solutions be adapted to changing conditions. These examples of cities show that their efforts to achieve sustainable development can vary in intensity from one area to another. There is no single methodology to define a sustainable city because sustainability is a dynamic phenomenon in terms of time and space and can be achieved in different ways. Cities can be more or less sustainable over time, i.e. they have a different value on the Sustainable Cities Index and ranking over a period of time. There are different models for achieving sustainability, i.e. different scores in the different sub-indices in the final result (rankings). Sustainability models that have proven to work in one city cannot be simply "copied" and applied in another, and certainly not in their entirety.

A different way of carrying out the tasks of sustainable development results primarily from significant geographical, political and social differences. The mentality of the city's population itself can become a key factor in the development of programmes to support social and economic aspects. The development of an appropriate approach, combined with the ability to look at human needs, both present and future, becomes a condition to create a unique plan for each city. Building diverse strategies for the sustainability of cities around the world can lead to setting new directions of development and stable sustainability based on experience from different parts of the world.
References


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ASPEKTY SPOŁECZNE I EKONOMICZNE W ZARZĄDZANIU MIASTEM W KONTEKŚCIE ZRÓWNOWAŻONEGO ROZWOJU

Streszczenie: Artykuł przybliża problematykę wdrażania zrównoważonego rozwoju w miastach ze szczególnym uwzględnieniem aspektów ekonomicznych i społecznych, które wraz z ekologicznym stanowią trzy filary tej właśnie koncepcji. Wskazano najważniejsze problemy społeczne i gospodarcze największych miast świata, a także aktualne strategie miast takich jak Singapur, Londyn, Nowy Jork i Dubaj, które szczególnie dobrze prezentują się w tych kategoriach. Przedstawiono sekcję analizującą efektywność działania miast na podstawie indeksu Arcadis Sustainable Cities Index.

Słowa kluczowe: rozwój w miastach, zarządzanie miastami, zrównoważony rozwój w mieście