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THE PERSPECTIVE OF LOCAL AUTHORITIES IN RESOURCE-EFFICIENT URBAN MANAGEMENT. THE CASE OF LODZ METROPOLITAN AREA

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ABSTRACT: The paper attempts to identify the scope of urban policy in the context of re-orientated responsibilities in the area of environmental protection and stimulating sustainable development in cities. At theoretical level, it makes references to urban regimes theory, the idea of urban resilience, paradigms of place-based development policy, and ecosystem-based management. The main objective of the paper is to identify the scope of urban policy and key areas for activities pursued by local authorities in the light of identified environmental threats and priority action areas. Cities and towns of the Lodz Metropolitan Area were selected for the case study.

KEY WORDS: resource-efficient management, sustainable development, city, urban functional area, urban policy

Introduction

As A. Karwińska writes “...in order to survive and develop cities needed innovative ideas of how to cope with subsequent challenges, outbreaks, invasions, fires, social conflicts, supplies of food, water...” (Karwińska, 2014, p. 8-9). Searches for an optimum model, a target hypothetical “ideal city”, and ways (paths) to overcome barriers and adapt to the changing conditions are still going on. Natural environment, in particular in the context of available ecosystem services, quality of life and sustainability of economic processes are all important factors that determine the living conditions in the city. Environmental quality problems perceived as a nuisance (also shortages), which have been experienced since the first housing districts emerged, have got intensified and globalised in recent years. Increasing body of environmental tasks, mainly as a result of the development of environmental infrastructure, however justified, has proven insufficient in the context of accumulating negative phenomena, such as increased contamination, loss of biodiversity, chaotic de-urbanisation and appropriation of space (also public space). Environmental policy, understood in sectoral terms, has not produced expected outcomes and in the face of new challenges and threats previously unidentified in many cities (environmental poverty, floods and local flooding, smog, blackouts) it has proved ineffective.

Sustainable development paradigm adapted for the needs of cities has changed the urban perspective and clearly highlighted the relevance of a comprehensive approach, where a city is understood as a social, economic, and environmental system. This approach was reflected in the *Leipzig Charter* (2007), which delineates the path of sustainable development for cities and identifies the main priorities, such as economic prosperity, social balance, and healthy environment. Sustainable development of cities consists in activities integrated and synchronised around key areas, such as: the quality of life, innovative, knowledge-based, and low-emission economy, resource-efficient management, and adaptation to climate change. Programme (7.EAP) “Living well within the limits of our planet” (2013), where supporting sustainability of EU cities features as one of priority goals. The Programme advocates the implementation of sustainable urban planning and development policies, in particular in the field of urban collective transport and mobility, energy efficiency, resource-efficient management and protection of biodiversity in cities until 2020 in the majority of EU cities. Urban policy, articulated at the EU and national levels, has become one of the key public policies and an evidence of the EU being “city oriented”.

The paper attempts to identify the scope of urban policy in the context of re-orientated tasks in the field of environmental protection and stimulating sustainable urban development. At theoretical level, it refers to the urban regimes theory, the idea of urban resilience, place based policy, and ecosystem-based management. Its principal goal is to specify the key activity areas for local authorities in the light of identified environmental threats and priority action areas. Case study is based on the Lodz Metropolitan Area (in Polish: Łódzki Obszar Metropolitalny) where pilot studies on resource-efficient management were conducted¹.

Urban policy: a response to contemporary challenges in cities

A shift from sectoral approach to an integrated territorial approach is one among processes observed for public policies across the world and in particular in Europe (including some EU Member States). Integrated territorial approach highlights the territory and territorial aspects of development. Cities and their functional areas are considered to be the key links of these processes. In Europe, there is general agreement over the key principles of future development of cities and territorial development, which should:

- be based on balanced economic growth and territorial organisation of activities, with a polycentric urban structure;
- build on strong metropolitan regions and other urban areas capable of ensuring good access to services of general economic interest;
- have compact settlement structure with limited uncontrolled urban sprawl;
- represent high level and quality of environmental protection in and around cities (*Cities of tomorrow: Challenges, visions, ways forward*, 2011).

Urban policy comes as a response to the above listed postulates as it is designed to exploit endogenous territorial potential (territorial capital) specified and identified by functional linkages, integration of public involvement in space and multilevel management system. Drafted by the government *National Urban Policy 2023* (Polish: *Krajowa Polityka Miejska 2023*, 2015) adopted in 2015 provides the framework for place-based activities of the state designed to support sustainable development of cities and their

¹ Pilot study: "Zasobooszczędne gospodarowanie w miastach Łódzkiego Obszaru Metropolitalnego oraz wybranych innych miastach regionu łódzkiego" (Resource-efficient management in cities and towns of the Lodz Metropolitan Area and in selected towns in the Lodz Region) based on a questionnaire-based interview conducted among the inhabitants of the LMA and representatives of local authorities and administration between March and June 2015.

functional areas² and to tap into their potential in growth of the country. The policy is drafted at national level and implemented through creating optimum conditions for the growth of cities, as well as through concentrating and integrating actions broken down by type and entities involved. It is a comprehensive and inter-territorial policy dedicated to cities.

The *National Urban Policy* has as its strategic goal to “enhance the capabilities of cities and urbanised areas to generate sustainable growth, create new jobs, and improve the quality of life of residents” through actions undertaken to shape the space, public involvement, transport, urban mobility, low-emission and energy efficiency, urban regeneration, investment policy, economic growth, environmental protection and adapting to climate change, demography, and urban management. Ecosystem-based management concept (*EBM*³) that stresses the importance of holistic approach to managing social-economic-environmental systems meets the needs of complex, comprehensive management in urban areas. Ecosystem-based management is the key element of an integrated approach that combines all individual characteristics of an urban system, such as, co-existence of closely intertwined environmental, social, and economic elements and processes. It differs from traditional approach as it does not address individual species, problems, sectors or activities. It focuses on a full array of interactions within urban ecosystem⁴, where a man and effects of his activities feature as relevant compo-

2 In accordance with the National Spatial Development Perspective 2030 an urban functional area is defined as a settlement structure, spatially continuous and composed of separate administrative units. It covers a compact urban area and urbanised area functionally linked with it.

3 *Ecosystem-based management (EBM)* – “is a management approach that recognises (needs of) the ecosystem” it originates from natural sciences and is a response to the problems of endangered species, protection of land, water, etc. first formulated in the United States in the 1980s and 1990s connected with an integrated approach to management, where ecosystem is understood as a system of intertwined biological and physical elements, mechanisms and outcomes of human actions. It is based on the identification of interactions between biophysical, social, and economic spheres; it also seeks ways to manage multiple, diverse human interferences with the ecosystem. The substance of ecosystem-based management consists in the integration of marine ecosystems (species, materials and ocean currents), social and economic systems and institutional systems to conduct complex (holistic) actions aimed to improve the quality of ecosystems and services that they render (McLeod, Leslie (eds), 2009; Tallis et al., 2010). The term “ecosystem-based management” should be distinguished from the term “ecosystem management”, which focuses on environmental interactions within the ecosystem rather than on the wide context of outcomes of human activity.

4 Specialist literature identifies two main strands of considerations concerning cities understood as ecosystems. One of them highlights the context of nature. City is interpreted as a collection of ecosystems, i.e., a structural and functional system that meets ecosystem criteria in biological sense. We are thus speaking of ecosystems in a city (ecosystem of a river valley, city park, etc.). The second, holistic approach focuses on a city as an entity and identifies close relations and interdependences between

nents. The approach is based on: ensuring sustainable use of ecosystem resources (1), cooperation and collaboration in implementing ecosystem-based management and planning (2), monitoring changes and effects, i.e., management effectiveness (3). Ecosystem-based management is a spatial approach, which recognises relationships (links), cumulated impact and multiplicity of goals within a given territory. The overarching objective is to maintain urban ecosystem in a healthy, clean, productive and resilient condition so that it could perform its functions and provide goods (including raw materials) and services that build up and maintain prosperity of its inhabitants and ensure efficient functioning of the city over a long period of time. It centres on enhancing the resilience of urban ecosystem and adaptation to change, improved efficiency of resources and higher social prosperity (McLeod, Leslie, 2009).

In an interdependent social, economic, and environmental system environmental resilience to pressure and adaptation are crucial for maintaining dynamic equilibrium necessary to uphold the continuity of environmental, social, and economic processes. In particular climate changes, their negative consequences and urban adaptation processes linked with them have produced the idea of urban resilience (Simmie, Martin, 2009), that has emerged in urban (but also regional) studies. Urban resilience is defined as a scope/scale of adaptation capabilities of a city to unexpected and unpredictable situations (e.g., natural disasters) or problems resulting from economic uncertainties, e.g., resource (water) or energy shortages (Barnett, 2001). Understanding of ecosystem resilience, i.e., to what extent it can maintain structures and functions in the light of distortions, is crucial for development planning. Against this background, urban policy is reactive and responds to current challenges in cities; it also favours integrated and flexible development planning.

Since cities differ and represent a variety of characteristics and typical problems, urban policy must be individualised. City provides space for clashes among coalitions, partnerships, interest groups, and stakeholders who represent diverse interests and needs (*urban regime theory*) (Stone, 1989). Institutional framework that includes administration bodies, as well as interactions between central and local administration, sectors of the economy, civil society, but also the legal system, all of them determine urban policy. A city is a living lab where projects the best suited to local conditions and meeting local needs can be delivered in cooperation with many other partners. Thus, it is vital to expand and foster institutional collabora-

nature, social and economic sphere. As a result, the interest focuses on a city as a complex, multicomponent system. Under this approach, urban ecosystem provides the foundations for ecosystem-based management.

tion with a wide group of stakeholders, i.e., public institutions, NGOs, economic operators, and residents who exert real impact upon living conditions, as well as social and economic activities in cities. Social involvement is a valid argument for increasing the efficiency of urban policy and the purposefulness of co-managing the city.

Resource-efficient management – new dimension of environmental protection?

Rio Declaration (Principle 4) clearly stressed the role of environmental protection in attaining sustainable development as an integral part of the development process (Kozłowski, 1993). The role of material and energy savings together with the need to reduce the consumption of resources by reducing flows of materials in the economy, as well as efficient use of obtained resources have been highlighted on numerous occasions (Daly, 1990). As for raw materials we know that their increasing global consumption translates into overall increase in their prices, intensified volatility of prices and increasingly frequent cases of raw material shortages and distortions in ecosystems. Despite universally known premises and consequences, imbalanced consumption of resources continues.

Change dynamics, but first and foremost, the scale and intensity, with which natural resources are used up, force out re-orientation in the approach to environmental protection and focus on resource-efficient management. Resource-efficient management, i.e., resource-efficiency includes all efforts intended to conserve natural goods for future generations maintaining high living standard of society and efficient economic development. More environmentally-friendly economy that efficiently uses its resources is an important area of “new” EU engagement, which is clearly stressed in Europe 2020 Strategy. The flagship initiative “*Resource-efficient Europe*” adopted in 2010 is an integral part of “Europe 2020” Strategy within the pillar of “sustainable development”. Its main axis links development with environmental protection and environmentally-friendly conduct of the users, in particular in the context of energy security, sustainable transport, economic and efficient use of natural resources, as well as building collaboration capabilities among various stakeholders. Long-term action plans that go on until 2050 relate to climate, energy, transport and resource-efficient.

Flagship initiative has been presented in greater details in the “*Roadmap to a Resource-Efficient Europe*”, whose principle goals include:

- improved economic performance with simultaneous reduction of resource consumption;

- identification and generation of new opportunities for economic growth, boosting innovation and EU competitiveness;
- ensuring security of supplies of basic resources;
- counteracting climate change and reducing environmental impact of the use of resources.

The above goals will become operational through actions in the field of sustainable production and consumption, waste management (where waste is treated as potential resource), supporting innovation, and protection of natural capital. The key to successful resource-efficient management at local, regional and supranational level lies in minimisation of the use of resources, i.e., in saving and smaller consumption of resources as a result of improved productivity and efficiency or even rationing. Equally important are recycling as a solution promoting closed circuit circulation where resources get re-used and replacement meaning the use of substitutes or alternative innovative solutions.

Contrary to common beliefs, Poland is much more clearly lagging behind in the EU in water, waste, and air management with better performance reported for energy management (Blusz, Inderberg, Zerka (eds.), 2015). Responsibility for the implementation of saving-oriented, efficient solutions rests to a significant extent with authorities at lower levels. In this context, we need to reinterpret tasks facing local authorities and all environment users. Local authorities remain to be responsible for eliminating negative environmental impact of local communities, however, the accent is put on comprehensive design of development processes and engaging inhabitants in managing, and primarily protecting, environmental resources (figure 1).

At the local level resource-efficient management can be discussed from the point of view of living conditions, with respect to which local authorities strive for continuous improvement. Living conditions include the entirety of relationships between people and the environment and relate to social and economic conditions, quality of housing, services, and conditions determined by natural environment and local development (Markowski, 1999). An integrated approach creates conditions to focus activities around key city resources or/and problems and limiting sectoral, unilateral approach to development, which is fundamental in the context of resource-efficient management.

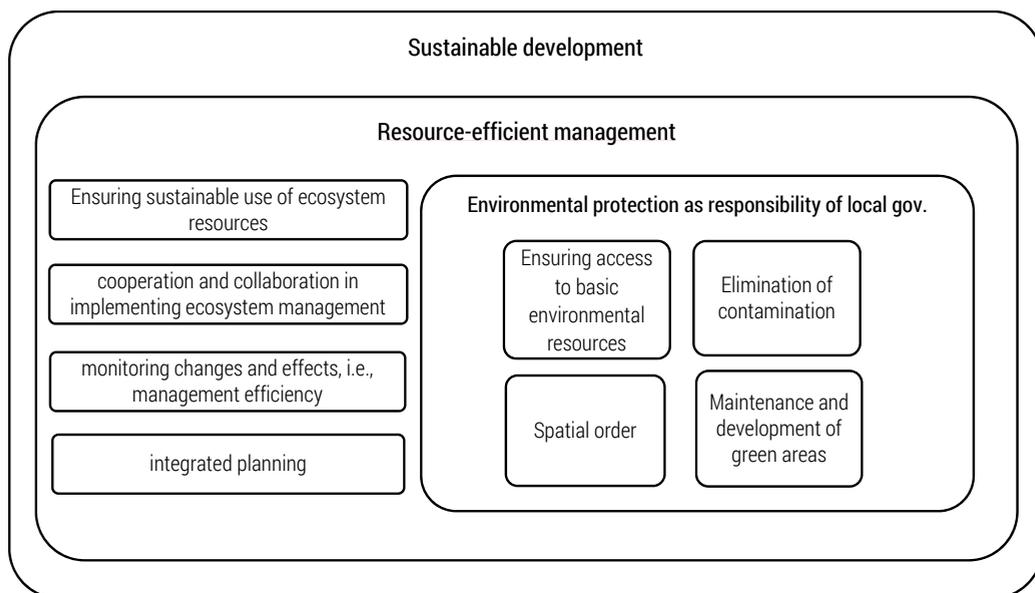


Figure 1. Essence of resource-efficient management. Local dimension

Source: author's own study.

Resource-efficient urban management: case of the Lodz Metropolitan Area

Redefinition of environmental goals and priorities that go much beyond the area of traditional environmental policy forces out integration of activities addressed to specific entities or actions. Local authorities face the challenge of supporting the efficiency of the use of natural resources, reducing emissions in the economy (increasing energy efficiency of the economy and energy generation from renewable energy sources, reducing emissions from transport in urban agglomerations), and improving adaptation capabilities to climate change. Nowadays, it is fundamental how cities perceive and identify environmental threats and problems of “little homelands” and what key challenges they face. The above issues provided an impulse for original studies conducted in towns and cities of the Lodz Metropolitan Area (LMA)⁵.

⁵ In the paper we present some results of a pilot study „Zasobooszczędne gospodarowanie w miastach Łódzkiego Obszaru Metropolitalnego oraz wybranych innych miastach regionu łódzkiego” (Resource efficient management in cities and towns of the Lodz Metropolitan Area and in selected towns in the Lodz Region) based on a questionnaire-based interview conducted among the inhabitants of the LMA and representatives of local authorities (mayors and councillors) and administration between March and June 2015.

The LMA includes regional capital Łódź and four counties (poviats) around it: brzeziński, łódzki wschodni, pabianicki, and zgierski; capital of the region, Łódź, and 11 satellite towns (including 5 towns, which are urban-rural communes). The LMA covers the area of 2,499 km², i.e. only 13.7% of the total area of the voivodeship (region); it is inhabited by 1,116 k people (44.0% of total population of the region), out of which 977 k live in towns and cities (60.2% of urban population in the region)⁶. The area has experienced common history, industrial development track, stormy flourishing and dramatic stagnation, as well as numerous functional links developed in the past and present times. Nowadays, these towns are seeking their own development paths, adopt new solutions, use their potential (human capital, location in the centre of the country, etc.), including post-industrial potential (Sokołowicz, Zasina, 2013; Rzeńca, Sokołowicz, 2017).

Conducted studies show that in cities and towns in the LMA main environmental threats are connected with low emissions (furnaces at individual households that use coal, coal dust, and wood), contamination deriving from intensified car traffic (including noise), and lack of care of inhabitants for the environment. Characteristically, in towns and cities that experienced extreme weather conditions (e.g., rainstorm, droughts) these phenomena were listed as serious threats. It demonstrates the change in perception of environmental burden and threats in cities through short-term, episodic (e.g., droughts, water shortages) and/or permanent (e.g., power outages in the times of heat) difficulties. Excess water or energy consumption or changes in space including suburbanisation were not listed as threats. The major challenges enumerated by respondents included:

- building up environmental awareness and environmental approaches among residents,
- increased use of renewable energy sources,
- better energy efficiency performance,
- low emission and resource saving transport,
- better use and management of space,
- more efficient use of resources (water, energy, space),
- the highest rate of recycling possible ("zero" waste economy).

⁶ Lodz Metropolitan Area, which currently consists of 31 units was established in 2014. Its major goals are, inter alia, to support the idea of local authorities; to protect common interests of the members of the Association; to support cooperation and integration of local self-government units of the Lodz Metropolitan Area; to promote partnership-based model of cooperation and to pursue joint policy in associated units of local self-government. Stress is placed on the integration of local community and joint planning of comprehensive or complementary actions. The cooperation resulted in the drafting and adoption of the Development Strategy for Lodz Metropolitan Area 2020. For more see: www.lom.lodz.pl.

The majority of respondents stressed the importance of improved energy efficiency but at the same time they did not perceive excess energy consumption as a threat. In some towns involved in regeneration projects better use and management of space was mentioned as a challenge. Unfortunately, no one commented on suburbanisation. Neither has cooperation been identified as a threat or key to the success of implemented activities. Only 4 towns considered cooperation with neighbouring communes an important issue. As shown by earlier studies on metropolitan relationships within the LMA, so far institutional linkages and relationships among individual territorial units have played a minor role. Also the level of cooperation among territorial self-government units is perceived as low (for more see: *Strategia Łódzkiego Obszaru Metropolitalnego 2020+ Część I...*; *Studium rozwoju Łódzkiego Obszaru Metropolitalnego*). Local authorities, especially in smaller towns, may also have insufficient specialist knowledge on available solutions and on the efficiency of such activities.

Conclusion

Urban policy is one among the key public policies and its importance is increasing. On the one hand, place based policy fosters the role of local communities, in particular cities and towns and their functional linkages. On the other hand, the idea of ecosystem-based management and urban resilience exposes the role of interdisciplinary approach and the ability to pursue integrated management and control over sustainable development. The above conditions open up possibilities to practice resource-efficient management at the local level. Self-governments and local communities in towns and cities may become the forerunners of changes that will further get promulgated in other territorial systems.

The studies clearly suggest that in the near future gravity of environmental actions at the local level will shift its focus to low emission economy and improved energy efficiency. The new programming period favours cities and their functional areas, which become the major beneficiaries of EU assistance, hence the opportunity to efficiently implement new solutions or new models of urban development planning becomes more real.

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