

CHANGES IN THE KEY FACTORS SHAPING THE DEMAND FOR ECOSYSTEM SERVICES IN PARKS IN THE CURRENT CONTEXT

Abstract. This article examines the evolution of ecosystem services provided by urban parks and the factors shaping demand for them across different historical periods. It examines the essence of the concept of ‘ecosystem services’, their main functions and classification in accordance with international approaches. The influence of forms of ownership, urbanisation, socio-cultural changes, and environmental and economic factors on the development of urban parks and the transformation of their role in society is identified. Particular attention is paid to contemporary challenges, notably the COVID-19 pandemic and public safety issues, which are shaping new guidelines for the sustainable development of urban park spaces. It is established that increasing urbanisation and the scarcity of natural areas reinforce the importance of urban parks as a vital element of a safe and comfortable urban environment.

Keywords: ecosystem services, urban parks, sustainable development, urbanisation, recreation, environmental factors.

By their very nature, urban parks constitute an ecosystem that influences the urban environment by providing a variety of ecosystem services; it is therefore important to identify the key stages in the formation of society’s needs for these services and the development of demand for them throughout the history of parks. In the current context of increasing urbanisation, environmental challenges and social needs, the role of urban parks is constantly growing, and the range of their functions is expanding. This is precisely why research into the characteristics of the development of parks’ ecosystem services is of great importance for shaping the directions of their sustainable development and the effective management of urban park spaces.

There are quite a number of definitions of the concept of ‘ecosystem services’.

Ecosystem services are the conditions and processes through which natural ecosystems and the species that comprise them support and enable human existence. They preserve biodiversity and the production of ecosystem goods, such as marine productivity, timber, biomass fuel, natural fibres, medicinal raw materials and industrial products.

Ecosystem services are the diverse and numerous benefits that people receive free of charge from the environment and from properly functioning ecosystems.

Ecosystem services are environmental components that are directly consumed or used to ensure human well-being, but they are not the benefits that humans derive from ecosystems [1, 2].

The park’s ecosystem services consist primarily of natural elements, the study of which, from the perspective of economic benefits, is a complex and multifaceted task. An analysis of existing approaches to the interpretation of the concept of ecosystem services allows us to identify their key components: natural conditions, processes and ecosystem components; functions related to providing conditions for human existence and the conservation of biodiversity; and specific features consisting of the free provision and direct consumption of such services by the population. It is precisely these characteristics that make the ecosystem services of urban parks particularly important for creating a comfortable and safe urban environment.

Unlike natural ecosystems or agricultural landscapes, urban parks perform virtually no utilitarian function related to the extraction of materials or energy. Their primary purpose is to ensure ecological balance, create recreational conditions, improve the microclimate, and meet the cultural

and social needs of the population. According to the 'Millennium Ecosystem Assessment' (2005) report, prepared under the auspices of the UN, ecosystem services are divided into four main groups: provisioning, regulating, cultural and supporting. This approach allows for a comprehensive assessment of the role of parks in the functioning of the urban environment and the identification of directions for their further development.

Cultural and regulating ecosystem services are of particular importance to urban parks. Cultural services relate to meeting the spiritual, aesthetic and recreational needs of the population, creating a favourable psychological environment and organising citizens' leisure activities. Regulatory services manifest themselves in the ability of parks to improve air quality, regulate temperature, reduce noise pollution and maintain the city's ecological stability. In turn, supporting services ensure the functioning of key ecological processes, which form the basis for the existence of other types of ecosystem services [2].

The significance of parks in society has evolved under the influence of historical, cultural and socio-economic factors. Whereas in past centuries parks were predominantly exclusive spaces for privileged sections of the population, today they have become important public spaces open to all social groups. Along with the transformation of ownership structures and changing social needs, priorities regarding the use of parks' ecosystem services have also shifted. The only constant has been that, throughout history, parks have held significant importance for society and the state.

The contemporary development of urban parks is characterised by a combination of natural, architectural and infrastructural elements, which together determine the quality of ecosystem services. Natural components—trees, shrubs, flower beds and lawns—remain the foundation of park spaces, whilst architectural structures and landscaping features are designed to enhance the park's recreational, cultural and social functions. Changes in the structure and organisation of parks are directly dependent on societal needs, the level of urbanisation, environmental challenges and the development of urban infrastructure.

Changes in the consumption of ecosystem services and their level of accessibility are closely linked to the prevailing forms of ownership of parkland. The functional capabilities of ecosystems only become fully-fledged services in the presence of a consumer capable of assessing their value and utilising them for their own needs. This is precisely why changes in the forms of park ownership have directly influenced the composition, numbers and social structure of the main consumers of ecosystem services, as well as the nature and priority of societal needs. Such transformations reflected the level of development of society's productive forces, economic relations and the characteristics of resource distribution. The conditions of private ownership entailed the ownership of park areas and the proceeds from their use by individual natural or legal persons, which, in turn, restricted access to ecosystem services for broad sections of the population

The form of ownership of parks determined not only the potential for utilising their ecosystem services, but also the level of organisational and financial support for park areas. With changes in the social order and the transition from private park complexes to public spaces, the role of parks in people's lives also changed. Consequently, society's needs regarding the recreational, cultural, aesthetic and ecological functions of parks underwent a transformation. Under the influence of cultural, ideological and social factors, the park gradually ceased to be merely a symbol of prestige or a sign of wealth, and became an important public space for rest, socialising and the restoration of people's physical and psychological well-being [3].

The rapid growth of cities and urbanisation processes contributed to the emergence of new public needs related to outdoor leisure and recreation outside densely built-up areas. This was the driving force behind the emergence of forest parks and large park areas on the outskirts of cities, created to provide facilities for suburban recreation. In European countries, examples of such areas include the Bois de Boulogne and the Vienna Woods, which remain important natural and recreational sites to this day. The emergence of the first public parks was accompanied by the functional zoning of the area in line with the population's new needs regarding leisure, walking and physical activity.

Despite the development of infrastructure, public parks remained a hub for outdoor recreation and provided a high standard of ecosystem services for the urban population. The quality of these

services was achieved through extensive green spaces, the creation of botanical and research areas, and a well-planned spatial layout. The combination of natural components with architectural and functional elements made it possible to enhance specific groups of ecosystem services and create areas for various purposes. As a result, urban parks gradually became an integral part of the urban environment, ensuring ecological balance, recreation and an improved quality of life for the population.

In the 20th and early 21st centuries, the key factor in the development of urban parks was their environmental and social role in providing a comfortable environment for the public. During this period, parks began to be viewed not merely as places of recreation or elements of urban landscaping, but as an important component of the urban ecosystem, capable of positively influencing the state of the environment, public health and citizens' quality of life. The species diversity of vegetation, planning features and functional zoning of parks were increasingly geared towards the cultural needs of society and the interests of various social groups. The design of park areas gained a scientific basis and began to take into account a range of socio-ecological aspects, including environmental safety, recreational appeal, sanitary and hygienic conditions, and the population's need for psychological recovery.

Factors influencing the formation of the qualitative characteristics of ecosystem services in urban parks can be usefully divided into three main categories: stable, relatively stable and variable. Stable factors include those that have a long-lasting and practically unchanging impact over a significant historical period. First and foremost, these are climatic conditions and the topography of the area, which determine the possibilities for greening, the selection of vegetation, and the specific features of the landscaping and spatial organisation of park areas. It is these factors that shape the basic natural conditions for the functioning of urban parks and influence their ecological effectiveness.

Stable factors are primarily linked to urbanisation processes and the development of the urban environment. A key feature of these factors is the gradual shift in the nature of their impact, which gives rise to new trends in park development and the implementation of innovative solutions. The growth in urban populations, increased building density, a shortage of natural areas and rising recreational pressure are driving the search for new approaches to the organisation of park spaces, the development of multifunctional recreational zones and the enhancement of the environmental sustainability of urban ecosystems [1, 2].

Variable factors are characterised by their dependence on societal changes, cultural trends and the current social needs of the population. These include society's aesthetic tastes, worldview and cultural characteristics, scientific and technological progress, economic and environmental challenges, as well as contemporary social issues. The influence of such factors is constantly evolving: requirements regarding the aesthetics of park areas are changing, new forms of leisure are emerging, and approaches to urban improvement and recreation are being refined. At the same time, contemporary environmental and social challenges are shaping new requirements for the functioning of urban parks as safe and comfortable public spaces.

Urban parks have taken on particular significance during the COVID-19 pandemic, when issues of public health, mental wellbeing and access to open spaces have become extremely pressing. During this period, parks have played a vital role in safeguarding the physical and mental health of the population, providing opportunities for safe recreation and social interaction. Experts from the National Recreation and Parks Association (NRPA) emphasised the exceptional importance of park areas during the pandemic and periods of social tension. The results of the 'Take a Vacation at Your Local Parks' survey, conducted in 2020, confirmed the growing role of local parks as accessible and safe recreational spaces for the public.

Respondents to the 'Take a Vacation at Your Local Parks' survey, the results of which were presented in the NRPA study, were asked about the likelihood of choosing a leisure destination near their home during the COVID-19 pandemic. The results demonstrated a significant increase in the importance of local parks as accessible and safe recreational spaces for the public. In particular, approximately 54% of the adult population in the US stated that they would choose a local park for

summer recreation during their holidays. At the same time, families with children showed even greater interest in using park areas near their homes — 66% of respondents with children preferred this type of recreation, whereas among those without children, this figure stood at 48% [2].

The findings indicate that urban and suburban parks are capable of providing comprehensive recreational services even in times of crisis, when restrictions are in place on travel or mass gatherings. During the pandemic, parks have become a vital element in supporting the physical and mental well-being of the population, offering opportunities for safe outdoor recreation, physical activity and family leisure. Thus, an urban park can serve as an alternative to traditional forms of tourist recreation and partially compensate for the shortage of recreational opportunities in times of crisis.

These trends confirm that contemporary global challenges directly influence the future development of urban parks and shape new requirements for the organisation of public spaces. In the current context, a park is viewed not only as an element of urban greening, but also as a multifunctional socio-ecological space that ensures environmental stability, social integration of the population and an improved quality of life for citizens.

At the current stage of urban development, a number of key factors can be identified that shape the direction of sustainable development for urban parks. These include climatic conditions, topography, and the environmental, economic and social challenges facing cities, as well as increasing urbanisation, population growth and a shortage of open spaces for recreation. At the same time, public health issues, the deterioration of the environmental condition of cities, the increasing psychological and emotional strain on people, and the need to create a safe public environment are becoming important contemporary factors [4, 5].

For Ukraine, following 24 February 2022, the issue of public safety has become particularly pressing, directly influencing the requirements for the organisation of urban public spaces, including park areas. In this context, the contemporary development of urban parks has a distinctly socially oriented character. Parks are increasingly fulfilling functions that are not only recreational or aesthetic in nature, but also contribute to maintaining the physical and psychological health of the population, improving the environmental condition of the urban environment, and creating comfortable living conditions. The benefits of urban parks are evident in the economic, social, environmental and health sectors, and their development contributes to the formation of new models of interaction between economic entities, local authorities and consumers of ecosystem services.

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