RIVERS AS BACKBONES FOR URBAN AND PERIURBAN RECREATION – CASE STUDIES FROM KOŠICE AND PREŠOV, SLOVAKIA

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Abstract
Most of the urban centers in Slovakia developed in valley locations, in the floodplains of the river landscapes. The gradual growth of settlements transformed the character of the riverscapes and caused significant changes in the physical structure and functions of the river systems. They were modified to fulfill functions required by society, to increase the level of flood protection of the adjacent territory, to create conditions for navigation, to become a source of energy and water supply for the population, agriculture, or industry, and they became recipients for drainage and sewage systems. Regulated rivers have become part of the urban structure of the city. Despite the changes, they fulfill the role of essential bio-corridors of ecological networks and form a key part of the green and blue infrastructure providing valuable ecosystem services, including recreation. In the paper, we examine and compare the history and current patterns of urban and periurban recreation development in contact with a watercourse, rivers Hornád, and Torysa, in the towns of Košice and Prešov.

Key words: riverscapes, greenways, green and blue infrastructure, bluefields, waterfronts

Introduction

While the first settlements were located usually in protected and elevated positions, most of the urban centers in Slovakia developed in the later medieval period as merchant settlements under the castles, in valley locations, and the floodplains of the river landscapes (Hruška, 1961). Their growth up to the present day gradually transformed the character of the riverscapes and caused significant changes in the physical structure and functions of the river systems (Halaj, 2010). Regulated rivers have become part of the urban structure of cities. The contact areas of cities and rivers acquired various forms and functions - urbanized waterfronts, ports, industrial zones, but also recreational zones (Hanáček, 2015). The recreational demands of city dwellers develop gradually, with the growth of settlements and the increasing population, reflecting the level of development of society and the increasing amount of free time of different social strata (Bihuňová, 2019). The banks are modified for recreational needs. In Bratislava, e.g., the first public park was established in 1774-76 by adapting the floodplain forest on the banks of the Danube. In the 19th century, physical education and sports became part of the urban culture. Water sports were very popular, the first modern sports club in Slovakia was the Bratislava Rowing Association founded in 1862. During the 20th century and until today, the demands for daily urban and suburban recreation are growing, and the natural potential of the river offers many possibilities. Despite the negative effects of urbanization and industrialization, rivers remain to fulfill the role of essential bio-corridors of ecological networks, form a key part of the green and blue infrastructure, and recreation by the river belongs to valuable and important ecosystem services, provided by river landscapes (Schneider, Kalasová, and Fialová, 2020).
In the paper, we examine the development of historical and current patterns of urban and periurban recreation related to a watercourse, in two case studies, in selected towns Košice and Prešov, along the rivers Hornád and Torysa.

Materials and methods

Košice and Prešov are located in the eastern part of Slovakia (Fig. 1). Košice, the second largest city in Slovakia (with a population of approx. 240,000), is situated in Košice Basin in the floodplain of river Hornád. Prešov, the third largest city in Slovakia (with a population of approx. 90,000), is located in the northern part of Košice Basin, in the floodplain of river Torysa and its tributary Sekčov.

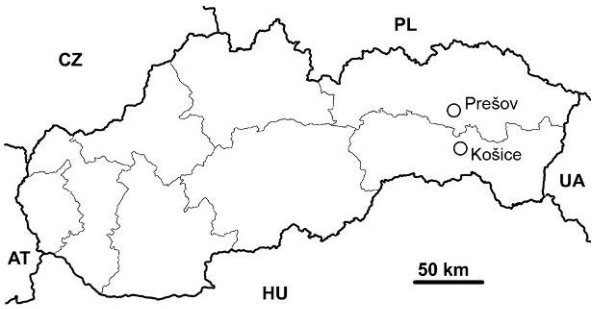

Fig. 1: Towns Košice and Prešov in Slovakia

For examination of the historical recreation uses connected to riverscapes, we used historical maps, literary sources, and historical photographs. For identification of current patterns of recreation, we used current map sources, municipal master and development plans, information about recreation activities from news and social media, and site visits.

Results

Historical patterns of urban and periurban recreation related to rivers in Košice and Prešov

Historical maps show the gradual development of the recreational use of the riverscapes in the hinterland of the cities. Both cities developed at a safe distance from the meandering course of the river, but the water was brought closer to the city by the mill races (Fig. 2).

Fig. 2: The relationship between the city and the river in the 18th century. (Source: 1st Military Survey of the Hungarian Kingdom 1782–1785)

Although it is impossible to read the specific existence of recreational areas from the map, gardens, green spaces, and high vegetation near the rivers, their branches, and mill races indicate this use (Fig. 2).

Construction of the railway in the 70s of the 19th century cut off both cities from the river, which had a significant impact on the further development of the city-river relationship. In later years, in Košice, a strip of industrial zone was formed in the areas along the river and the railway, which limited the possibilities of recreational use of the river until the present day. In Prešov, a zone of housing, sports, and amenities was developed between the railway and the river, which enabled closer contact with the river for everyday leisure and recreation activities.

In Košice, a recreational area near the river developed in the suburban zone above the city, related to the source of mineral water. In 1863, the spa with a park and a spa building was created around the Lajos Spring. In 1922-24, it was rebuilt and renamed the Gajda Baths (Tometz, Dirnerová, and Tometzová, 2019) (Fig.3).

Fig. 3: Historical postcard of the spa house Lajos Spring (left) and swimming pool (right) in Gajda Baths. (Source: archive of authors)

In Košice and Prešov, mill race channels were also important for recreation. Historical photos and memories document their summer and winter recreational use. In summer, they were used for swimming or boating, and in winter for ice skating. The mill race in Prešov supplied water to the city swimming pool and several city baths, and in winter, it served as a water source for the municipal ice rink, built at the end of the 19th century. In Košice, a city park was built along the mill race channel, between the railway station and the city center. The mill race in the park was used for boating and supplied water to the municipal ice rink with a building from 1909 in the Art Nouveau style (Fig. 4).

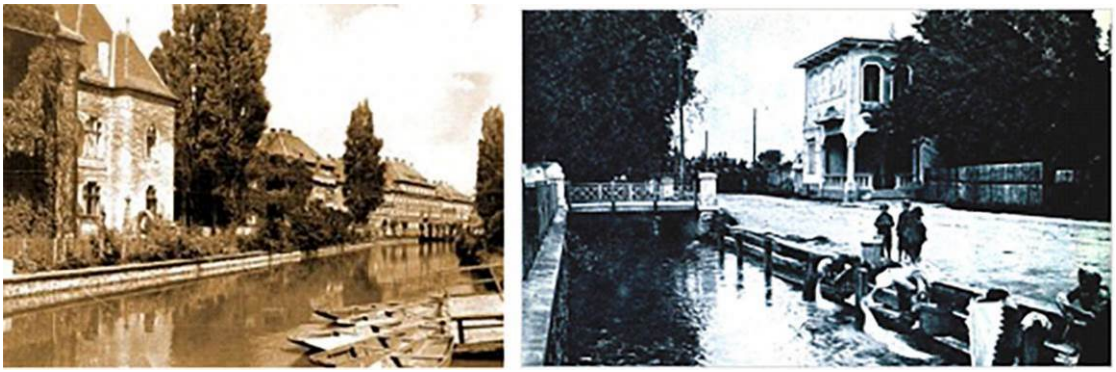
Fig. 4: Historical postcards of the mill race in Košice (left) and Prešov (right). (Source: archive of authors)

Current patterns of urban and periurban recreation related to rivers in Košice and Prešov
In Košice, the tradition of the Lajos Spring and Gajda Baths by the river Hornád, in the northern part of the city, is currently being followed by the recreation area called Anička. In the southern part of the city, in the housing estate Nad Jazerom, built during the socialist period, there is a recreation area by the river in the vicinity of the lake, created by quarrying sand and gravel. It is used for summer swimming and winter skating. Cycling is a popular recreational activity these days. A bicycle path runs along the river, but its continuity in the central part of the city is interrupted by various premises of former industrial areas and warehouses, blocking access to the river. The historical mill race was channeled underground in contact with the city center, which meant the impoverishment of the recreational attractivity of the city park. Current initiatives are trying to revitalize the existing parts of the mill race for better utilization of its recreational potential. In 2021, the city announced an urban planning competition for the regeneration of unused and neglected former industrial areas along the railway and the river, intending to build a new city center with housing for 18,000 inhabitants and various amenities. Emphasis is placed on revitalizing the river, strengthening the green-blue infrastructure, and creating spaces for recreation (Fig. 5).

Fig. 5: Košice - Hornád – New city center – proposal Gogolák + Grasse (Source: Archinfo, www.archinfo.sk)

In Prešov, the river is currently surrounded by residential zones with multifunctional facilities, university campuses, sports fields, swimming pools, sports halls, and parks for everyday recreation. The most popular cycle route runs along the river Torysa, suitable for recreational cyclists, families with children, and bicycle carriers. It connects the city of Prešov and the small town of Šariš with the castle, which is one of the most popular attractions in the vicinity of Prešov. The mill race channel in Presov was buried, and a cycle path was built in one part of it. A large residential complex of Sekčov housing estate was built in the valley of the river Sekčov.

Discussion

The research results indicate that the river played an important role in suburban and urban recreation in various historical periods. Recreation activities by the river are changing. In the past, the river and the mill races were used for bathing. Today, the green corridor along the river is used for cycle routes and various physical activities and relaxation. Regulation and flood control measures have made access to water difficult. The disappearance of mill race channels in both cities meant the loss of the recreational potential of public spaces in the city centers. Currently, both cities are trying to find ways to create new relationships with their riverscapes.

Conclusion

Residents' needs for recreation are growing, and cities are looking for ways to valorize the potential of riverfront spaces. The artificial environment of the city in contact with the natural organism of the river is, in many cases, solved non-conceptually without examining mutual relations and contexts at different levels (Hanáček, 2015). The revitalization of rivers, restoration of accompanying vegetation of watercourses, and restoration of the functioning of floodplains and wetlands can also become part of measures to mitigate the consequences of expected climate changes. When planning an urban riverfronts revitalization strategy for recreation uses, it is necessary to clarify which ecological processes are the most important for revitalization and to what extent river ecosystem restoration should be included in the revitalization projects.

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Souhrn
Většina městských center na Slovensku vznikla v údolních polohách, v nivách říční krajiny. Postupný růst sídel proměnil ráz říční krajiny a způsobil výrazné změny ve fyzické struktuře a funkcích říčních systémů. Byly upraveny tak, aby plnily společensky požadované funkce a regulované řeky se staly součástí urbanistické struktury města. I přes změny plní roli zásadních biokoridorů ekologických sítí a tvoří klíčovou součást zelené a modré infrastruktury poskytující cenné ekosystémové služby včetně rekreace. Nároky městských obyvatel na rekreaci začínají narůstat a prostory u břehů vodních toků jsou upravovány pro rekreační využívání. V příspěvku zkoumáme a porovnáváme historii a současnost rozvoje městské a příměstské rekreace v kontaktu s řekami Hornád a Torysa, ve městech Košice a Prešov. Výsledky výzkumu naznačují, že řeka hrála důležitou roli v příměstské a městské rekreaci v různých historických obdobích. Rekreační aktivity u řeky se mění. V minulosti řeky a mlýnské náhony byli využívané ke koupání. Dnes je zelený koridor podél řeky využíván pro cyklotrasy a různé pohybové aktivity a relaxaci. Regulace a protipovodňová opatření ztížily přístup k vodě. Zánik náhonů v obou městech znamenal ztrátu rekreačního potenciálu veřejných prostranství v centrech měst. Dnes obě města hledají způsoby, jak vytvořit nové vztahy se svými řekami.

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