

The Role of the River in the City Centre and its Identity

Justina Mačiukėnaitė*, Ingrida Povilaitienė

Kaunas University of Technology, Institute of Architecture and Construction, Tunelio st. 60, LT-44405 Kaunas, Lithuania.

*Corresponding author: justina.maciukenaite@gmail.com

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Since the first human beings started to live sedentary lifestyle, the rivers have had significant role in the life of people and in the development of the settlement. The main functions of the river were: protection, crafts related with water and maintenance of industrial enterprises. Therefore, the shape of the city that time highly depended on the river. However, nowadays the connection between the society and river is unclear. According to the historical and scientific literature, the changes of the river role for the city centre and its identity will be analysed. Current situation in Lithuania through the prism of implemented practical projects will be revealed. Review of successful practical experience abroad will be made and the examples of the river embankment design in the centre cities in Denmark, Slovenia, Austria and France will be presented in this paper.

Keywords: *river influence, embankment, riversides, urban identity, urban development.*

1. Introduction

Nowadays the eco-movement, eco-lifestyle, eco-food, eco-materials and other eco-ideas are spreading across the world. Nature by itself and what comes from it have become more significant than human made things. This trend is observed in the field of architecture and urbanism as well. People prefer spending their leisure time in the nature or at least they are trying to find public recreational spaces in the urban areas. Rivers, lakes and other water reservoirs with their waterfronts could play quite significant role here. Due to this, the flurry of the city and river reconnection is among architects, urban planners, government representatives and businessmen for a while. However this point of view (friendly point of view to the nature) was not the same in all times. The relationship between the man and water, the functional usage of the river and the influence, what river had made for the people life, has been changing for several times throughout the history. The aim of this paper is to review the changes of the river role in the centres of Lithuanian cities and reveal the today's peculiarities of riversides management. Besides the river had not only different significance depending on the time but also the different points of view were dominating and the different issues were relevant even in the same period. Especially it is distinctly visible nowadays. There are scientists and theorists who pay their attention to the river however they are looking through the prism of their interests and sometimes they are looking from the different sides. Due to this the short review of the different aspects of riverside management in the scientific literature (1) will be done

in this paper. Furthermore, the analysis of the historical changes of river role (2) in the city and especially in the city centre will be done. The reasons of historical changes (why), circumstances (when) and consequences (how) will be analysed. Definitely, not all of the changes affected city in the positive way. Therefore the main relevant problems of the river in the city centre (3) we face-in today will be discussed here as well. The current role of the river in the centres of Lithuanian cities and in their identity (4) will be analysed by reviewing the riversides management projects implemented recently. Finally the tendencies of riversides management abroad (5) will be discussed (what are the priorities, how the river participates in the life of the city as part of one sustainable structure).

2. Methods

The analytical, comparative, descriptive methods were applied to prepare this paper.

In order to get the complete view of current situation of the river role for the city centre, the detail *analyse* of historical sources, architectural and urban planning theoretical researches has been done. Majority of the monographs, studies or articles touch the relevant topic just in a fragmentary way or just from one point of view. Therefore this paper is an attempt to analyse the most important individual observations.

Comparative method was applied: to compare the opinion differences between the theorists; to reveal the changes of the river role throughout the history and find out

how the river impacted the identity of settlement; to check how the theoretical knowledge was adapted in the different practical projects in Lithuania and abroad.

Descriptive method was applied to reveal peculiarities of practical development of the riversides. The examples of successfully implemented management projects of riversides in Lithuania and abroad were described in this paper. It can be stated that nowadays the tendency of adapting riverside area for public needs is observed. Therefore in foreign examples riverside has clear and appropriate functions and the riverside as the public space fully represents the main open space in the city centre. Unfortunately, the Lithuanian case is not so successful. Despite that according valid juridical base the riverside should be left unbuilt, this requirement is more orientated to the ecological protection of the river, not for the public interest.

3. A variety of opinions on the river role

River and its influence for the city centre is quite broad topic. Therefore it is discussed in different aspects in the Lithuanian and foreigner scientists' works of urban planning theory and history. Although there is a possibility to classify (though quite roughly) all these different points of view accordingly to the main object of the interests:

- *Function (river as a "functional cog")*
- *Society (river as public, open space)*
- *Ecology (river as ecological stabilizer)*
- *Visibility (river as formant of visual identity)*

Under the cover of the first group "*functional cog*" there are the scientists and urban planners who analyse river as a part of urban structure, however they bring out just the functional importance and tangible benefits. Le Corbusier, one of the pioneers of what is now called modern architecture, especially highlighted the functional importance of the river. In his opinion, river is the infrastructural object, something like liquid railway (Rekevičius 2010). Although, it is very technical point of view, more humane thoughts about river could be found in the researches of other authors.

According Ch. Alexander, the need that people have for water is vital and profound. He wrote "...people will build places near the water because it is entirely natural; but that land immediately along the water's edge must be preserved for common use. To this end the roads which can destroy the water edge must be kept back from it and only allowed near it when they lie at right angles to it." (Alexander et al. 1977). This quote expresses importance of riverside as *public, open place and space*. Possibilities of embankment development as open space for city dwellers were analysed in the aesthetic, compositional approach by C. Moughtin (1999). The formation of the embankment is described by K. Lynch (1990) as well. Furthermore, there are even standards and design strategies created for the riversides planning (Buttler et al., 2006). Following overall strategies for the design of a successful waterfront area continuity, variety, sequence, and connection should be considered. Danish architect and urban design consultant J. Gehl (2010) has focused on improving the quality of urban life by creating humanistic open spaces (including riversides) and re-orienting city design towards the pedestrian and cyclist. This perception of the riverside

as public space is mostly common among Lithuanian urban designers and architects as well. Development of the river embankment in the context of the other open spaces is discussed in the works of A. Miškinis (1991), K. Šešelgis (1996), J. Vanagas (2008).

K. Jakovlevas-Mateckis analyses river from *the ecological perspective*. He claims that rivers and riversides are a part of natural frame and its carry out essential ecological compensation function. Riverside slopes and its greenery and even brushwood are like the lungs of the city and it encourages formation of horizontal and vertical air flow. This process ensures clean air flow and polluted air displacement into the upper layers of the atmosphere. The riverside buffer, where, according to the laws of Lithuania, urbanization is not allowed, should be left unbuilt and the width of it should not be narrowed. During the process of shaping the urban environment, closer attention should be paid for the river identity enhancement, visual quality significance, improvement of the access to the water and increase of recreation opportunities for the urban community (Jakovlevas-Mateckis 2006).

River, as one of the most relevant factors for *the visual identity*, is touched in many of the studies that deal with peculiarities of settlements. Valleys of Nemunas and Neris, their influence for the Kaunas identity have been analysed by J. Bučas (1994), M. Purvinienė (1980), J. Kamičaitytė-Virbašienė (2005). The thorough examination about the river influence on Vilnius visual identity has been made in the monograph "Protection and development principles of Vilnius visual identity" by Z. J. Daunora, S. Kirvaitienė, A. Vyšniūnas (2004). The proposals for the development of Neris riversides are discussed in the articles of P. Zaviša (2012), J. Glemža (2011), M. Kajackaitė (2011).

Certainly, there are more aspects of the river role for the city centre, which might be not so substantial. However these "subtopics" still are quite meaningful and should be mentioned as they closely interact, overlap and influence the main objects of interest, which were defined before.

The changes of river influence for the urban structures throughout the history have been analysed by T. Grunskis and L. Nekrošius (2004). G. Milerytė (2008) has made the case study and collected the information about the role of the rivers in Kaunas city life in interwar period. After industrial revolution not a few enterprises have been left along the river. Nowadays, when the eco-movement is going on, the *conversion of industrial areas* (especially the ones, which remained in the central parts of the cities or along the rivers and today are abandoned) is very topical issue. Therefore K. Matulevičius and J. Šliogerienė (2011), E. Garrick and I. Alistratovaitė (2005), L. Nekrošius (2006) focused their interest on the conversion of industrial areas in the river embankments (experience in Lithuania and in foreign countries). Besides, from time to time the individual opinions about the river are revealed in the publicist articles, personal interviews or public events. Summarizing, it can be stated that such broad discussion not only in the scientific studies of Lithuanian and foreign scientists, but also in the other media streams, shows that the topic of the river role in the city centre and in the life of people is very relevant.

4. Retrospective point of view (Lithuanian case)

Inevitably, the urban development is influenced by political, sociocultural events (both in global and in local scales). The most significant events in Lithuania, that have had an impact on the evolution of the settlements and that have changed the relation between rivers and human were: establishment of Lithuania state (Baltic tribes unification) in the 13th century; victorious battle of Grunwald in the 15th century; Wallach reform in the 16th century; the third partition of the Polish–Lithuanian Commonwealth in 1795; the declaration of independence during the interwar period; the annexation of Lithuania by the Soviet Union (1940–1990) and the restoration of Lithuania's Independence in 1990. The changes in town and the river's functions depending on the historic evolution of Lithuanian settlements are showed in table 1.

There is an opinion that river trade in Lithuania started in 5th–7th century. The goods could have been transported by the trade route of Nemunas (Žulkus 2002). The trade was very important in the mediaeval times, although till the 13th century the conditions for the trade were not very favourable because of political and military emergencies.

Craft and trade of Lithuanian cities were hindered by existing well developed cities of Rus and constant struggle with the Teutonic Order. Klaipėda was the first settlement which was granted cities rights (in 1254). However, it belonged to the Livonian Order. The provision of the self-government and trade rights for the cities (in the Grand Duchy of Lithuania) started only by the end of 14th century. Situation has changed and more favourable conditions for the commercial development (including river trade) were formed when the Teutonic forces were finally defeated in the Battle of Grunwald in 1410. The stage of maturation and prosperity of Lithuanian settlements started. (Šešelgis 1996). However, from the middle of 17th century till the end of 18th century political and economic cataclysms (struggles for power and domination between the nobility, plague and famine) led the country to the decadence (Grunskis et al. 2004). The network of settlements was thinned out. The population decreased so much that many towns turned into rural villages or become extinct.

Global industrialisation process, which has had a huge impact to the urban and economic development of the world cities, affected Lithuania as well. Subsequent changes of

Table 1. *The historic evolution of Lithuanian settlements and the relationship changes between town and the river's functions*

Period	Conditions	Main function of the settlements/ Other functions	Location of the settlements	Main function of the river/ Other functions
13 th –15 th century	Unfavorable: wars with crusaders; competition with other Rus towns	Defense/ Trade, administration	Strategically important locations: nearby castles and fortresses; along the rivers or lakes.	Defensive barrier/ Logistics, fishery, crafts, trade, maintenance
15 th –16 th century	More favorable: in 1410 the crusaders were defeated in the Battle of Grunwald	Trade/ Administration (autonomy), defense	By important land roads	Trade, fishery, logistics, crafts/ Maintenance
16 th –17 th century	Favorable: economic and cultural prosperity	Trade/ Administration, agriculture (in the small settlements)	Intensive colonization of Užnemunė: settlements in the new places; growing of the former settlements	Trade, fishery, logistics, crafts/ Maintenance
17 th century- end of the 18 th century	Unfavorable: famine, plague; disagreements among nobility	Defense/ Trade, administration	Remained at the former locations: only few new settlements were established in the areas where the density of populations was not high.	Defensive barrier/ Logistics, fishery, crafts, trade, maintenance
1795–1918	More favorable: technical achievements in 19 th century; growth of capitalist relations	Trade/ Administration	Nearby newly built routes: railway lines; highways	Trade, fishery, logistics, industry/ Maintenance
1918–1940	More favorable: reform of agriculture; the abolition of serfdom	Trade/ Administration	Remained at the former locations: reconstruction of the settlements destroyed during the First World War	Trade, fishery, logistics, industry/ Maintenance
1940–1990	Depending on the type of settlement: central; assisting; not being developed	Administration/ Trade (?)	The unified system of settlements: developing of the former settlements; design and building of the new settlements	Maintenance, industry/ Trade, fishery, logistics
1990–now	Depending on the political strategy: decreasing population; economic crisis; lack of the investment	Administration/ (?)	Remained at the former locations: Urban sprawl around the biggest cities	Recreation (?) Fishery (?)/ Logistics (?) Industry (?) Maintenance (?)

the Lithuanian settlements structure also were influenced by a wider modernisation process, where social change and economic development were closely related with technological innovations. The majority of Lithuanian lands, after the third partition of the Polish–Lithuanian Commonwealth in 1795, were under control of Imperial Russia. The way of urban development changed substantially. Cities were planned in consistent and regular basis, thought like a part of Russian Empire urban system. In the discussed context, riverside evolution as the city's public space was closely related with trading ports and markets. Public space along the river was evolving as far as trade, crafts and other activities related with water were developed in the city.

From the early 20th century, dams and hydroelectric power plants were started to build. The riversides have become a strategically important place for the setting up the industry, since river facilitated the transportation of raw materials and other goods. Despite the fact that during the interwar period the significance of the rivers as transportation axes was reduced because of rising of other transport routes (land roads, railways) development, there were new functions for the river found. It started to be used for the recreational purpose and river travel has attracted much interest.

Colossal alterations happened while Lithuania was in the Soviet Union. Changes touched landscape of both rural and urban areas. The reclamation decreased ecological stability. The negative consequences of it were: uncontrolled rivers mode, drought, overgrowth, decline of the species diversity, deflation increases and etc. Most of the stream and some rivers turned into canals (Kraštovaizdžio formavimosi... 2008). Still during the Soviet years, rivers were used quite intense. Self-propelled and towed barges floated by the rivers and the regular tours of high-speed passenger ships were organised. River water also was used for maintenance of metal processing, chemical and paper plants.

5. Challenges of the river role in the city centre today

According to the historical retrospective and present situation of the river role in the city centres there could be some relevant problems distinguished we face today.

- *Functional issues.* *The role of the river by itself is significantly decreasing. Functional potential of the river is not used sufficiently including inland waterway transport (passenger and goods transportation), water tourism and fishery (recreational and commercial fishing).*

After the restoration of Lithuanian independence, the functional role of the river in Lithuanian cities has not increased, but only eroded further. According to the data of Lithuanian Department of Statistics about the passenger and goods transportation via water routes from 1995 till 2012, the functional use of the rivers has been growing while general passenger transportation has been decreasing. However, this growth was not as fast as it could be expected. Definitely, the scale of transportation is highly influenced by the general economy. The highest level was reached

in 2008, when there was economic boom and after that it started to fall down. The impact of global economic crisis was not so significant in the sector of goods transportation (it recovered in a year) as it was in the sector of passengers' transportation (the marginal growth was observed just from 2012). In any case, it can be predicted that the significance of the waterway transport will increase in the future depending on the growth of global economy and will take more significant part in the field of transportation due to the possibility to transport high dimensional loads and due to the lower costs.

- *Social benefits and loss.* *In Lithuanian case, not only the river is losing its function, riversides is on this way as well. Global trends reveal riverside as public, open spaces. However in Lithuania, (except few successful examples) riverside is still considered as a way (route) to reach the place where to spend leisure time and not as the final destination (transit versus stay in).*

There are cases where the main function along the river is transit or the degradation of the previous function led to the situation where no function is at all and the area is abandoned and unused while it could be nice public space. For example, the river embankments are occupied by industrial buildings and the riversides are enclosed from society. Such buildings are along the rivers embankments in Klaipėda, Kaunas cities centres and etc. Moreover, green riversides are without functional script – the potential is not used like Island of Nemunas river in Kaunas city centre or green place close to Neris River in Vilnius centre. On the other hand, nowadays there are some good initiatives to change the situation which will be discussed in the next chapter.

- *Ecological problems.* *The situation of river water quality is not the biggest ecological issue in Lithuania (most of the rivers meet the criteria of good and moderate water quality classes (Aplinkos ministerija 2011)). However, there are not enough equipped green spaces along the rivers in the cities which could be an integral part of urban green spaces system and which not only could fulfil the social aspect as public space but also would guarantee the ecological balance of the city.*

After the industrial revolution growth of industry is threatening the world with the ecological problems. The car cult was huge in 20th century in Europe but still is vital in Lithuania: the roads were built along the riversides, open spaces were converted into parking place and the link between river and society was lost in city centre (Gehl 2010). For example Kaunas city centre where the Karalius Mindaugas Street (which goes along the Nemunas River) was widened and narrow embankment part with steep slope was formed to separate pedestrian flows from the flows of motor vehicles during the

Soviet period. Moreover garage of shopping mall is made above this street close to Nemunas river in 2007.

- *Challenges of visual identity.* There are a lot of examples around the world where the river is the main formant of the identity of the city. However, in Lithuania river always has been the border of the city (protection from the world outside), not the axis. It is sad to admit, but the river (valuable feature) given by nature is not accepted as something exceptional or peculiar.

Almost all of the biggest Lithuanian cities are located near the rivers (Vilnius, Kaunas, Klaipeda, Panevezys). Rivers and their slopes are defined as the most valuable attributes of urban identity in the strategic planning documents of these cities. However, the first association of almost of all of these cities is related with some single (usually architectural) object, but not with water or river. Klaipeda is the exception here as it is port city, city by the sea. Tempting idea is, that such river as it is in Venice, Amsterdam or Hamburg (integral and important part of the city's identity) gradually will come from the strategic plans of the cities to the society's perception.

6. Lithuanian and European examples

Lithuanian case. The perception about turning to the cities' rivers slowly proceeds in Lithuania. Many architectural, urban contests, workshops were designed to revitalize rivers of cities centres and still appear. Taking into account Vilnius city example, creative architectural workshop for Vilnele's riversides revitalization was presented in 2008. Although the revival works of territory moved a little, students and young people prefer to spend their time close to the river. There are art and cultural centres formatting (Vilniaus architektūros... 2008).

Neris' embankments revitalization ideas were presented during workshop "Design forum" in 2009. Guggenheim museum contest was organized to reveal the idea how is possible to revive Neris riverside forming its territory as social place. However, Neris embankments are still green place without clear zoning or some architectural elements nevertheless is favourite citizens open green place. According to G. Čaikauskas, territory „could be saved, maybe still preserved as the green space and authentic place for people to communicate“ (Čaikauskas 2009).

Also, well-known revitalization projects ("Memelis city" quarter, "Sea gates" quarter and etc.) of Dane riversides and industry territory close to Dane river outfall and Kursiai lagoon were prepared in Klaipeda city. Moreover, the project of commercial function quarter was implemented close to Žvejai street. The building-up was formatted close to Dane river and cafes with outdoor terraces let enjoy the flowing watercourse (Fig. 1). Dane riverside is adjusted in front of these buildings as well: the paths were made, benches were set. However, the benches were fixed in close to the Dane river, but they were not oriented and turned away from the water.



Fig. 1. Klaipėda riverfront, Lithuania (Klaipėda... 2011)

Despite the fact that, the development of "Memelis' city" quarter is left in project stage, "Sea gates" quarter work is in process: riverfront historical buildings were restored and renewed, cafes, hotel rooms were established inside. Besides, Dane riverside was developed, Castle harbour was expended, lightning, benches were installed and pedestrians' paths were created. Moreover, after big, isolated industry territory reconstruction work close to Dane riverside and Kursiai lagoon appeared a possibility to reopen Dane riverside to city's residents, tourists (Jūros vartai... 2013). On the other hand, there are still closed and not adapted Dane riversides for using left.

There are Lithuanian resorts with exceptional recreational potential like Druskininkai, Birstonas, which are situated in Nemunas loops. Furthermore, these towns like urban phenomenon do not compete with nature, but organically merge with present natural environment and the role of the river in cities centers is exploited too. For example, according to general plan of Druskininkai and survey of present situation, Nemunas riverside is being used actively by city's guests, residents all over the year (Druskininkų savivaldybės teritorijos... 2012). Nemunas riverside is rich with greenery, planted parks. There are pathways, cycling routes paved. Also, relaxation zones are established even pier is made. What is more, riversides are lively not only because of pedestrians, cyclists, but fishermen are spread too (Fig. 2). On the other hand, more access and connections with the other Nemunas' riverside is needed.



Fig. 2. Druskininkai riverfront in spring, Lithuania (Druskininkai... 2009)

Birstonas is other resort example, situated in Nemunas Loops Regional Park territory and riverside distinguishes with possibility to look over Nemunas river clearly. Here is pier, pathways as well as other infrastructure installed (Birštono savivaldybės teritorijos... 2010). In spite of that,

mixed use zones are missing. Therefore, the view from the other riverside is not such clear and the connection with Nemunas river is not perceptible.

The focus point is Kaunas city settled close to Nemunas and Neris rivers' junction. Kaunas is another example with big theoretical attempts to revitalize riversides of city's centre and attract society. There are many contests done: Architecture and urban design competition for the central part development of Kaunas city in the valley of the Nemunas river (2003), Right bank of Neris river concept symposium (2007), Lituanica – creative workshop (2009), Island of Nemunas river contest in Kaunas (2010), Conceptual contest of Kaunas castle's site and neighbouring territories (2011), Building and planning contest of Brasta's quarter (Brasta street 22, 22A ir 24 in Kaunas) (2012) (Lietuvos architektų sąjungos... 2013).

According to the Kaunas city general plan project (2013), there are many bridges marked with a goal to connect opposite riversides and open city centre and river for society. Island of Nemunas river is marked as public interest area, the opposite riverside close to H. and O. Minkovskių street is marked as mixed-built-up, public interest area and extensively used green space. While the riverside of Nemunas and Neris rivers' junction (in old town) is set as extensively used green space and opposite embankment is set as intensively built territories (Kauno miesto bendrasis... 2013).

However, after so many contests and guidelines of general plans (2003, 2013) implementation of the projects moves in small steps. The open spaces close to river or riversides of city centre are realized not completely and management works are in different stage. For instance, the Santaka Park revitalization work is mostly implemented in old town. Considering existing situation, bushes and trees were cut close to river, new paths were paved, and relief was adjusted close to Kaunas Castle. Also, the zones for kids, athletes with outdoor equipment were installed. Now bicycle path will be paved to connect cycle rout (Kauno miesto... 2013). Besides, western part of the Park side is left as natural shore where opportunity to walk and enjoy Nemunas and Neris rivers' junction is retained. In the southern side of the Park beach zone is prepared with sand, just any equipment is not constructed. Moreover, stadium is equipped in the east side of Santaka Park. Santaka Park with several zoning parts is favourite and visited by Kaunas people especially during summer time (Fig. 3).



Fig. 3. Santaka park in Kaunas, Lithuania (Santaka... 2013)

Not so far from Santaka Park, close to Vytautas' the Great church, Daugirdas amphitheatre with cafe is adapted to the Nemunas riverside. This place is used as a public open space for concerts, art performances and etc. Impressive view opens from amphitheatre because it is integrated in front of Nemunas' river. During the summer this riverside is used frequently. Moreover, pier is installed in this territory as well. Also, Island of Nemunas River is another important city centre open space in new town close to Karalius Mindaugas street. Despite of many designed conceptual projects this island is still natural and the territory is not developed enough, just sport arena is embedded in island's east side and green open space is left behind its back. This central natural Park could be popular among citizens, but still is not strong functional script adapted to gather people there. Furthermore, Karalius Mindaugas street is a big infrastructure territory which physically and psychologically cut island of the Nemunas River from urban system as well as from society. Therefore, narrow, long pathway close to the Nemunas River steep slopes is not pleasant and save place for walking or cycling (Fig. 4).



Fig. 4. Island of Nemunas' river in Kaunas, Lithuania (photo by I. Povilaitienė)

European case. The same problems as lost river function in urban space and human life, importance of cars, transport corridors which increasing the gap between society and cities' rivers existed in Europe. However, the consciousness about the role of the river as a perfect recreational urban place in city centre strengthened earlier than in Lithuania – in the end of 20th century. People, planners turned to human dimension, the car apotheosis finished. Urban planners tried to adapt city spaces, to open natural areas more for pedestrians, cyclists than vehicles. The process of returning the riversides to the people has started. For instance, the river in Arhus, Denmark, which was converted into street in the 1930s, was changed into open space for people in 1998 and work continued until 2008 (Fig. 5, Fig. 6). The river and its riversides became the most popular recreational space in the city (Gehl 2010).

Extraordinary riversides' planning example fitted for human dimension – Ljubljana riverside in the old town of Ljubljana city centre. This great example shows how river could be used as pleasant and relaxing space in the city centre these days. "Due to the very dense mediaeval city structure, the Ljubljana river corridor was the most important open space of the mediaeval urban area" (URBEM 2004). Moreover, it was a place for bathing in the city centre until

the late fifties of the 20th century. According to literature analysis, in 1929, architect Jose Plecnik (Jožef Plečnik) managed to fix Ljubljana river high vertical concrete walls into human acceptable space for different uses of riverside. Though by the beginning of the twenty-first century the river lost its initial recreational function, the streets, and river surroundings were used for vehicles. However, after refurbishment of the banks of the river Ljubljanica the river regained its earlier, lost role and its function and Ljubljana city got European Prize for Urban Public Space competition in 2012 (The European Prize... 2013). Nowadays there are many spatial uses and activities: bikeways, social events, footpaths etc. Moreover, many ramps, terraces, pontoons are made close to river (Fig.7).



Fig. 5. Arhus river converted into street in the Arhus city centre, 1993 (Arhus... 2013)



Fig. 6. Arhus city centre after reopened river, 2008, Denmark (Arhus... 2013a)



Fig. 7. Ljubljana riverside, Slovenia (Liublijana... 2013)

Otherwise, there is no grand revitalization projects focusing attention to the rivers in cities centres. The most important is interpreted new function of the river and the biggest task is to find a key how to fulfil the main goal – to keep cities riversides vital. Like Paris Plage close to Seine river or Vienna's The Strandbar Herrmann place near Danube canal where people enjoy river during summertime. For example, The Paris Plage is opened four weeks from 20 July. The riverside becomes car-free place that time – “a Seine-side holiday” space (Fig. 8). There is possibility to find everything like being by the seaside: sand, deckchairs and etc. (Mairie de Paris ... 2013). Also, many installations and new open beach bars, cafes close to Danube canal attract people in Vienna (Vienna's Canal Grande...,2013).



Fig. 8. Paris riverside in summer, France (Paris... 2012)

Furthermore, well known examples are Amsterdam, Venice and Stockholm cities where water never lost its importance and is identity in city core during many ages. In addition, the human-river-urban system exists in harmony and constantly until nowadays.

7. Conclusions

1. Considering the review of scientific and historical literature, it becomes clear that the role of rivers in city centres is multi-faceted. Quite roughly, it can be classified by the main object of interest: a) functional role of the river, b) social role of the river; c) the ecological role of river; d) visual role of the river for the city centre.

2. In the course of history, political and sociocultural events always have influence on urban development and shape of the city. Such events also affected the river role for the city centre, as well as influenced the relationships between river and human. Depending on that, usually one of the four dimensions (functional, social, ecological or visual) of river role was dominating.

3. According to the literature analysis and empirical researches, the function of the river is not clear in the centres of Lithuanian cities nowadays. Also, weak social, visual, ecological and identity formation factors led up to the lost role of the river in urban and social context.

4. Comparing foreign projects of riversides revitalization with the Lithuanian ones, it is obvious that the potential of the river here is untapped and managed insufficiently. All the dimensions of river role (functional, social, ecological and visual) should be developed equally, without overwhelming each other, in order to achieve the

most optimal results of riverside regeneration. However the majority of the conceptual ideas are still left in theoretical stage.

5. On the basis of the implemented riversides' projects abroad the management tendencies of rivers and riversides in the city centre can be distinguished: the river is interpreted as an important axis of city centre with strong visual and ecological role in urban space. Also, aspects of sustainability and riversides adapted for social place are the trend of river management nowadays.

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Justina MAČIUKĖNAITĖ – Kaunas University of Technology, Institute of Architecture and Construction, Centre of Territory Planning.

Main research area: urban planning.

Address: Tunelio st. 60, LT-51367 Kaunas.

Tel.: +370 676 48778

E-mail: justina.maciukenaite@gmail.com

Ingrida POVILAITIENĖ – Kaunas University of Technology, Institute of Architecture and Construction, Centre of Territory Planning.

Main research area: urban planning.

Address: Tunelio st. 60, LT-51367 Kaunas.

Tel.: +370 609 50483

E-mail: i.lipnickyte@gmail.com