

DEVELOPMENT TENDENCIES OF LANDSCAPE COMPOSITION IN URBAN RESIDENTIAL AREAS OF LATVIA

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ABSTRACT

Large-scale residential areas are an important part of urban environment. The present condition of the outdoor territory in Latvia in the 21st century has both positive and negative characteristics. These characteristics greatly affect further development of these multi-storey residential area courtyards. Consequently, the chosen theme on the multi-storey residential area courtyards in Latvia is topical and essential for development of any urban environment. Multi-storey residential area courtyards in Latvia can be divided into two major groups that differ from each other with the period of construction. One group comprises those courtyards built in the second half of the 20th century, and the other group – courtyards planned and constructed in the 21st century. The method chosen and applied in the research helped define the current condition of multi-storey residential area courtyards. The examples chosen and analysed by the author of the present paper provide information on typical development tendencies of residential outdoor territories in multi-storey residential area courtyards in Latvia. The results obtained in the research are essential and topical, and can be considered in development plans for any other municipality of Latvia, especially for planning, landscaping and renovating the living environment in multi-storey residential area courtyards. The quality of living environment in courtyards greatly affects its exploitation intensity for everyday and recreation necessities for every resident of the area.

Key words: development tendencies, urban residential areas of Latvia

INTRODUCTION

Modern multi-storey residential area courtyards in most cities of Latvia have been neglected. The major part of the city is occupied by large residential areas built in the second half of the 20th century. Such multi-storey residential areas and their courtyards have not experienced any transformation or renovation over the recent years. The present condition of courtyards does not correspond to modern requirements, which results in multiple problems with territorial planning, which, as a result, are not able to provide functional exploitation possibilities for residents; thus, the planning can be characterized as unsuccessful. Fewer amounts of problems can be observed in 21st century projects and landscaped residential area courtyards. Their visual appearance greatly contrasts with those built in the 20th century. The major part of these courtyards is characterized as successful and with positive development tendencies.

The aim of this article is to analyse the present condition in urban multi-storey residential area courtyards in Latvia, and to determine the typical development tendencies in these territories.

MATERIALS AND METHODS

The term 'quality of living environment' in Latvia is well known. Prior to regaining the independence

in 1991, in the Soviet Union period, Latvian architects were intensively working on such issues as healthy environment, environment aesthetics, and environment space organization. The economic situation of that period and ideological aptitude towards better future allowed thinking of environment quality and aesthetics. Nevertheless, today this great housing period has left considerable serious problems for the further development of urban residential areas. These areas typically have uncountable landscape composition problems that affect every resident of the territory. The neglectful attitude of residents towards the living environment, non-functional spatial planning that causes irreversible negative consequences, is only a small part of greater problems in large-scale residential areas. Consequently, to determine the present condition the empirical method was applied and statistic data (survey) were gathered from 100 respondents. The empirical method comprised the definition of the present condition, its observation and analysis of legal framework materials in Riga, Jelgava, Ventspils and Liepaja cities in the summer of 2010. The data collected from the survey group of 100 respondents presented information that precisely evaluated the present condition in multi-storey residential area courtyards. The group of the respondents comprised residents from the territories analysed from the age 20 – 65, in Riga and Jelgava multi-storey residential areas. The questions

prepared cover the following topics: resettling from one multi-storey residential area to another residential area; residents' knowledge on infrastructure modernization projects proposed by the municipalities in their residential areas; the most successfully planned modern courtyards, and the processes affecting courtyards, according to the residents (Karpova, 2008; Īle, 2010).

RESULTS AND DISCUSSION

A modern multi-storey residential area courtyard – it is a sophisticated multi-functional space in the environment that is used by thousands of people daily. Unfortunately, in Latvia, the major part of these territories has unsuccessful planning that greatly affects the present condition in these territories. For example, see Figure 1 and 2. The projects constructed in the Soviet Period today are no longer able to bear the great load because many aspects of residential outdoors have changed. There are multiple problems that also affect the requirements of the building regulations LBN100 for planning and organising territory.



Source: (Пучин et al., 1977)

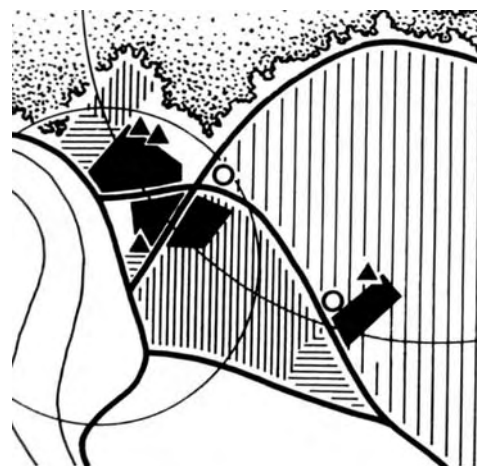
Figure 1. Liepāja city housing example.



Source: (Пучин et al., 1977)

Figure 2. Liepāja city quarter housing plan, where 1–in-built servicing institutions (canteen, bread shop, cafe); 2–public utilities (washhouse, garages, steamshop and fuel storehouse).

These regulations for urban housing have not been in force since restoration of independence. Nevertheless; it defines requirements that concern, for example, the amount of parking lots, the distance of new buildings from residential buildings, and insulation requirements and usage that is important in the context of urban planning. Urbanization gradually takes over more new territories. The deeper the process, the more complex the emerging problems are. Having regained the property rights for several free housing land territories, they are freely sold to different investors who propose to project and build new residential buildings, ignoring the common housing principles of the area. Without a unified area development plan, where detailed humanization propositions are foreseen, it is easy to imagine the chaos that arises in the course of such actions in the residential areas of Riga. Therefore, it is essential to ensure that area detail plan projects are prerequisite also in large-scale residential areas. To stop the technical progress in housing is practically impossible and it is not necessary to do so. It is important to find ways how to improve, enrich, and make the architecture that defines the image of cities and countries in the whole world more diverse. If only the building itself is considered in planning, then the city can face great problems. There will be very few comfortable and open spaces. It is especially necessary to accentuate that in general and detail plans of national, regional, urban and municipal development, spatial structure composition, and its visual landscape image has to be granted a special important place, see Figure 3.



Source: (Пучин et al., 1977)

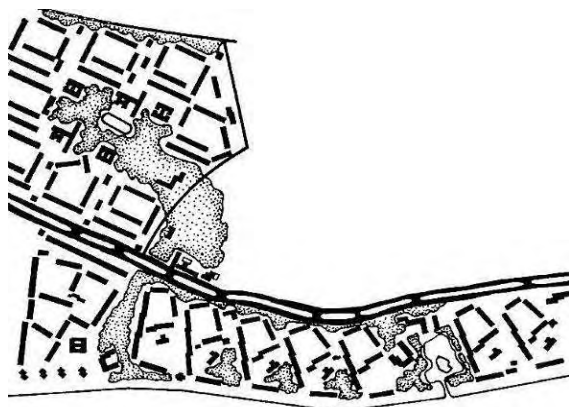
Figure 3. Ventspils city north-eastern area residential zone location, where 1–new residential areas; 2–large-scale residential housing area; 3–estate housing; 4–reserve territories for residential area building; 5–children institutions; 6–schools.

It can be noted that landscape architecture, as one of the most important parts of territorial environment planning, emerges on the basis of progressive functional, economic, and aesthetic factors. It improves the development quality of living environment in the broadest urban housing aspect. Landscape architecture projects are an essential and guiding part of territorial environment planning. Strictly observing these regulations, landscape composition in multi-storey residential areas in Latvia in this situation would gradually improve and prevent further development of negative tendencies. It would be unfortunate, if the projecting, housing and Latvia climate-appropriate residential home programmatic experience would lapse and the quiet period in housing sphere would linger.

Excluding some very unsuccessful examples, the first housing boom of the 21st century has enriched the stock of residential buildings in Riga with interesting and user-friendly examples of architecture. With few exceptions, buildings of this period are not geographically located in chronologically closed large territories like witnesses of earlier housing period – Bulvāru loks (semi-circle of boulevards) built a century ago, Āgenskalna priedes and Ķengarags areas, or Purvciems area – built forty to fifty years ago, or Mežciems, Zolitūde, and Ziepniekkalns areas – last decade of the Soviet industrialization. See Ķengarags residential area housing scheme in Figure 4.

The region of Riga is developing faster than other regions of Latvia, therefore, unwanted phenomena and perilousness caused by uncoordinated development are more frequent than in other regions. Consequently, the residents of these territories want something to be changed. See the respondent opinions in Table 1.

At present, multi-storey residential areas develop unevenly, and there is a danger of stratification of several multi-storey residential areas.



Source: (Buka et al., 1987)

Figure 4. Ķengarags residential area planning and housing scheme in Riga.

Table 1
Respondent opinions about moving from multi-storey residential area

Nr.	Respondent opinions	%
1.	Would like to move to another residential area that is more functional and suitable for everyday needs.	30
2.	Do not want to move to another area, it is not necessary, because everything is satisfying.	12
3.	Have thought about moving to another residential areas, but the financial condition is not safe enough to move.	58

The main part of multi-storey residential areas does not correspond to the modern requirements of multi-functionality, and the residential fund is worn out.

Another considerable problem is that the area is overcrowded by residents of nearby residential areas, which disturbs well-being of inhabitants, and does not allow the area to function as intended. The respondents find that the main reasons for this problem are as follows: the areas are constantly unattended and unmaintained; the infrastructure is of low quality; the roads are only mended temporarily; financial difficulties (municipal and private); the increasing car amount causes disorder in car parking near the residential houses, the wear of housing and surrounding landscape; culture, attitude, and behavior of inhabitants, their indifference and neglectful attitude; activities and decisions made by the municipalities; teenage vandalism; property management inconsistencies and unwillingness to maintain the area; poorly planned and non-functional territory plans; location of multi-storey residential areas; residential areas are often located on private land properties; therefore, the municipalities cannot invest in private properties, for example, in order to reconstruct the roads. Aside of the above mentioned facts, an important aspect is the residents' competency as regards the present development processes in multi-storey residential areas, see Table 2.

By providing in due time the constructed surface and underground street infrastructure that includes complex infrastructure development – reconstruction and renovation of street surface and roads, construction of sidewalks and car parking lots, bikeways, water and sewerage network, storm water maintenance systems, electricity and lighting, electronic communication, etc., it helps developing attractive and qualitative urban environment that is one of the main prerequisites for creating qualitative and aesthetic living environment.

Table 2
 Residents' competence about municipality
 organized infrastructure modernization project
 realization over the last year

Nr.	Resident's opinion	%
1.	Yes, the project has been carried out	28
2.	No, the project has not been carried out	56
3.	Lack of information	16

Source: (Afaņaševa, 2009; Briņķis, 2004; Economic and Ecological Factors..., 2006; Īle, 2010; Karpova, 2008; Krēgers, 2009; Liepa-Zemeša et al., 2009; Planning Region..., 2007; Strautmanis, 1982; Strautmanis et al., 2003; Widarsson, 2005; Ерохина et al., 1987).



Source: from author's personal archive

Figure 5. Outdoor territory landscape for adult activity in Ventspils.

Multi-storey residential areas present multiple possibilities for applying physical changes and transformations that should be done in many multi-storey residential area courtyards. For example, see Figure 5. The development of these objects can critically affect the social structure of the property. The decisions made can affect the way how buildings are used and their maintenance process. It is an essential criterion for successful regeneration. These days transformation of old factories into residential or office buildings is not an innovation, it is, instead, a logical development – industrialization of the city centre or its neighborhood is neither economically, nor ecologically substantiated, see Figure 6.

Unfortunately, by constantly relying on the proximity of parks and multiple recreational possibilities they provide, it is now common that the idea of creating children playgrounds in the courtyard territory is often neglected, and instead, many car parking areas are constructed. It is unfortunate; because well planned and landscaped private courtyards facilitate the unification of micro-communities, improve relationships among the residents, which is an irreplaceable quality in the modern stressful and rapid lifestyle to establish new communications.



Source: (Rukšāne, 2009)

Figure 6. Former flour storehouse 'Druva' transformed into residential building.



Source: from author's personal archive

Figure 7. Courtyard design in „Dienvidu pakavs”.

Another important issue is the use of the composition elements: colour, shape, rhythm, dynamics, flexibility and material (glass, concrete). One successful example of residential area landscape composition can be found in Riga – “Dienvidu pakavs” residential building complex in Ziepniekkalns area, see Figure 7.

Another successful example is “Iecavkrasti” in Jelgava. The respondents find that the area courtyard is functional, aesthetically pleasant, harmonious, tidy and well planned. In case if the first random development visions are realized, the 119 series nine-storey and twelve-storey residential building landscape would be supplemented by impersonal residential and office towers. Nevertheless; good ideas, if presented in the right light to the right person, tend to be fulfilled, as it was in the case of “Dienvidu pakavs”. The “Sarma & Norde” architects were successful enough to convince the owner of the project to consider the benefits of a perimetrical or horseshoe-like shape housing, the need to renovate Ziepniekkalns area, and the human factor and successful landscape, maintaining the initial owner's economy based and urban building regulations approved requirements, such as the amount of the square meters, cost of a square meter, selling possibilities and housing density, insulation etc. The horseshoe-like shape

ensures that the public space quality is not merely a toll paid by the owner to the city, but also a well-planned functionally aesthetic part of the courtyard. The courtyard territory is also available to the nearby area residents – pedestrians, and its two-level planning creates a special feeling of being in a private territory, where the outdoor image can be observed only in close-up, see Figure 8. The colour segments logically divide two play areas – for younger children and older. They are adapted almost for all children’s needs: crawling, climbing, sliding, drawing and shaping, but it lacks such an important item as swings. The modern idea of planting berry bushes and fruit trees near the playground is a ‘tasty’ and successful solution. Along with falling leaves of autumn, a topical issue might become the terrace maintenance. The courtyard plan ensures that there are no parking spaces on the territory, instead – parking lots are constructed underground, which is a modern and ecological solution that takes into consideration the safety of children. In both courtyard territories the central elements of the territory are trees - the oak tree and lime-tree - which were maintained before the area was even built, see Figure 9 and 10 (Rukšāne, 2009; Towers, 2000; Ventpils city development..., 2007).



Source: from author’s private archive

Figure 8. Playground constructions in „Dienvidu pakavs”.

Today the initiative of residential building owners and residents has become more important not only as regards the energy efficiency, but also the issue of courtyard maintenance. There are courtyards that are initially planned to be maintained by the municipality, but there are such exceptions where, after privatization, the resident becomes the owner of the apartment, and the shared area of the residential building, as well as its surrounding territory. Consequently, the responsibility over the courtyard lies on every resident of the area; therefore, its maintenance and renovation is to be performed by the residents themselves. Unfortunately, the residents are poorly informed about how these issues are to be resolved and how to properly organize the courtyard territory. A typical example of this problem is a courtyard project in Jelgava city large-scale residential area, see Figure 11. Planning the first environmental education territory in the city, the municipality has proposed the top level aim for reorganization of the infrastructure in public space environment – to make people aware of nature’s processes by allowing observing and comparing.



Source: from author’s private archive

Figure 10. Central element – lime-tree in „Dienvidu pakavs”.



Source: from author’s private archive

Figure 9. Central elements – oak trees in „Dienvidu pakavs”.



Source: from author’s private archive

Figure 11. Example of courtyard plan in Jelgava.

In this educational territory children and teenagers will have the opportunity to study nature through feelings by coming into contact with natural materials, actively playing in specially made constructions, and by observing and applying informative elements in their activities. The environmental education square is constructed in the shape of a spider web, with multiple pathways for acquiring nature, for example, Lauku taka (Country path), Zvēru taka (Animal path), and Putnu taka (Bird path), where several elements of nature are located, such as an ant heap, sun clock, and spider's nest. All constructions and the relief are made of natural materials – wood, stone, sand, and gravel. In the centre of the square there are swings, slides, and other playground constructions, and there are benches placed around the square. The equipment of the square is appropriate for children from the age 2-15 years, and the total area of the territory is around three thousand square meters (Bartaševics, 2009; Čepanone, 2009; Jerošenko, 2009).

A significant difference from the earlier residential housing territories and those built at the beginning of the 21st century is that now it is required that the area provides at least one parking space for every apartment, and this space has to be within the territory of the residential housing. If the building construction takes place in the whole quarter:

- car parking lots can be constructed in the underground, on the territory surface, and in another multi-storey building;
- if only one building is constructed, then the amount of its apartments depends on the amount of the parking spaces;
- in case of underground parking lots, the cost of building becomes significantly higher and the landscape is planned without trees.
- courtyards can function as car parking lots with an obligatory children playground squeezed into the corner. This type of planning can often be observed in Riga, and it emphasizes negative development tendencies of the courtyard, see Figure 12.



Source: from author's private archive

Figure 12. Children playground near underground parking lots.

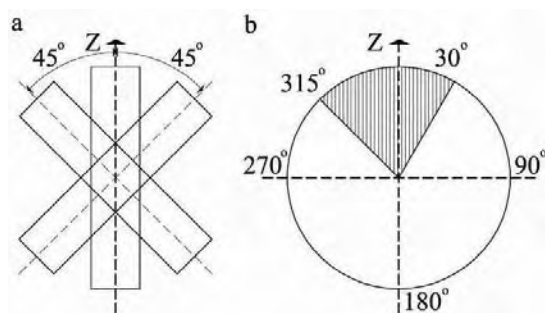
Table 2
Residential environment aims for rehabilitation and humanization

No	Desirable requirements
1.	Disposition of auxiliary buildings and low quality residential buildings that do not correspond to the modern housing sanitary and hygienic requirements in perimetrical building quarter indoors.
2.	Vertical and horizontal zoning of the quarter indoor territory for creating areas for car parking in one or several levels and resting areas for people from different age groups, and creation of new well-planned pathways for pedestrians.
3.	Improvement and development of greenery system using both quarter indoor terraces and roof terraces.
4.	Improvement of the existing houses, eliminating communal and replanning low quality apartments.
5.	If necessary, eliminate apartments from building's first and second floors to build rooms for trade, offices and other public functions.
6.	Exploitation of the roof territory for building apartments and art workshops.
7.	Construction of new houses, using spaces in between perimetrical buildings, or in separate cases, building new groups of buildings inside the quarter indoor territory.
8.	Improvement of the building facade visual quality using colours and modern decorative techniques, considering also the roof coverage as a view both from the street and higher levels.

Along with the above mentioned solutions to be performed, another important issue that would provide comfortable living environment for residents is the improvement of the sanitary and hygienic conditions in the areas considered. It is important to diminish the density in residential areas to ensure good insolation, noise isolation and aeration, see Figure 13 - Insolation scheme for residential buildings.

The noise level in residential complexes depends on the type of planning and housing. The transport noise level in residential territory depends on the location of the residential buildings. Optimal space should be foreseen already in the project – on the one hand – the housing area should be minimal, and – on the other hand – it is necessary that the area of free territory is as large as possible.

The climate of the area is defined not only by the size of the greenery area, but also by its quality.



Source: (Briņķis et al., 2009)

Figure 13. Residential building insulation scheme, where a–building location; b–favourable and unfavourable areas.

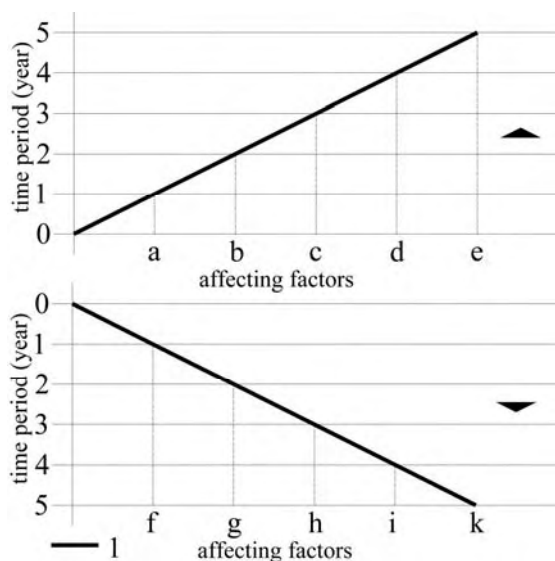
In multi-storey residential housing areas it is necessary to provide recreational zones and children playground areas.

These must also be a detached area for garbage disposal bins, which could be one for several buildings, because it is really difficult to find a place 20 meters from windows, but no farther than 100 meters from building exits. In many cases the solution for this problem is even better, because garbage disposal bins are integrated in the first floor of the building or under a separate lean-to. New housing projects lack simple everyday necessity constructions – sheds. There are often problems for residents to find a place to store seasonal equipment, such as boats, skis, bicycles, which are often stored on the balcony. An irreplaceable part of the new housing project is a transformer. It is built with a reserve for future neighborhood with the developer's money and given to the electric power supplier. Storm water maintenance has been performed neither during the Soviet period, nor since the restoration of independence of Latvia. There is no well-defined responsibility system (it is unclear which institution is responsible for storm water maintenance and the corresponding institution). Storm water sewerage systems are joined with other economic sewerage systems or vice versa. No inventory of storm water maintenance systems has been performed, the systems are outworn and they cannot perform as intended. There is no storm water maintenance models projected in Latvian cities. Even worse – the technical infrastructure and their provided public and social service do not correspond to the European standards. The philosophy of storm water maintenance has changed over the last two decades. An ideal storm water maintenance system is a system that allows absorbing and storing the water in the place of origination. Today the main idea is to incorporate building systems with urban and landscape planning, providing that the quality of area where storm water is collected would not significantly change. According to the regulations regarding LBN (The Latvian Building Code)

223–99 the storm water maintenance systems are to ensure qualitative disposal of water where the frequency is around 0.33 – 20 years (usually 0.5 – 2 years) depending on the type of building, the size of the catchment area and the land surface slope. Overflow of land is allowed in case of intense rain, where its frequency is around 10 – 100 years (usually 50 years), preventing the building basements from overflowing (Buka et al., 1987; Economic and Ecologic Factors ... , 2006; Krēgers, 2009; Kruše et al., 1995; Saistošie noteikumi Nr. 09–11 ... , 2009; Strautmanis et al., 2003; Vides aizsardzības un reģionālās ..., 2001).

The economy of urban housing is greatly affected by rational territory exploitation. The length of all engineering network (underground and surface) and the width of the territory for landscaping are planned according to the height of the buildings and their density. Further course of residential housing development in this period is connected with finding free territories in new and old cities, as well as with transition to wide urban reconstruction. Only with strict planning the sustainability and durability can be achieved, at the same time, with the responsibly considering what happens on the ground level. When planning new residential areas or cities on a flat relief (Riga and its surrounding area), the most attention is to be paid to the housing silhouette as a whole, and the relation between separate objects as one of the most important ground rules for harmonization of the relation between the environment and the newly created system. The aim for further development of environment is a creation of multi-functional and intensively exploitable urban environment, as well as maintenance of the identity of the area, its improvement, and harmonization of the environment.

Looking from a broader perspective of urban environment, a priority should be the renovation and modernization of already existing densely populated residential areas, as well as their humanization, improving the public transport accessibility. This action might prevent people from moving away from their present residences, and the city from expanding. The problem lies in the fact that not always the needs and requirements of inhabitants can be satisfied and fulfilled in the area of their residence, because it is often hindered by external factors that cannot always be affected. Looking at the present situation in courtyards of large-scale residential areas from the aesthetic quality perspective, the general image of environment is rather monotonous, boring and dilapidated. There are several factors that affect the aesthetic quality of residential areas in the territories analysed, see Figure 14. According to the authors' observations, such negative factors found in these areas make the residential outdoor environment unpleasant, degraded, and depressing.



Source: author's construction

Figure 14. Factors affecting aesthetic quality, where l—aesthetic quality curve; a—good social conditions; b—safe environment; c—harmonious environment; d—functionality; e—high quality landscape and greenery; f—bad social conditions; g—degraded environment; h—disharmonious environment; i—non-functional environment; k—low quality landscape and greenery.

The issue of the aesthetic quality in courtyards is an essential aspect of public outdoor environment which needs to be considered more often in the future, and it is necessary to find more solutions for more successful development of these territories (Buka et al., 1987; Liepa-Zemeša et al., 2009; Strautmanis, 1977; Treija, 2008; Environment

sciences, 2008).

CONCLUSIONS

The data obtained in the research process have provided essential and important information about the present condition of multi-storey residential area courtyards in Latvia that were built both in the Soviet period and in the last decade. Consequently, the housing period is one of the main aspects that presently determine further development of courtyards in Latvia. Having analysed the territories selected, it has become obvious that the development process of these territories at present is uneven. The negative features that degrade the present condition of multi-storey residential area courtyards need to be prevented, considering the opinions of the residents of these areas, and encouraging them to join in residential area maintenance activities. Such actions might prevent the area from degrading and would change the residents' negative attitude towards residential environment, where they spend the major part of their lives. There are not enough multi-storey residential area courtyards in Latvia to characterize them as functional, aesthetically pleasant for pleasant recreation, and as harmonious and tidy. The problems enlisted were analysed, which led to the conclusions that should be considered by any municipality and private owner for further investment in outdoor territory development, in order to create and renovate the courtyards of these multi-storey residential areas, providing safe and pleasant environment for every resident of the territory.

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