

ARRANGEMENT OF OUTDOOR SPACE AT PRESCHOOL INSTITUTIONS IN THE CITY OF NIŠ

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Abstract. *Open spaces within the preschools should be thoroughly planned during the design of the facilities. To children who use the services of preschools, these spaces make their stay interesting, and for that reason facilities in courtyards and green spaces should be carefully planned. These parameters of urbanism were taken into account when we looked at the open spaces in preschools on the territory of Niš. This paper includes analyses of all 20 preschools in the city of Niš, with the aim to draw attention to the situation in the region and the problems they face.*

Key words: *open spaces, playgrounds, preschools, the city of Niš, Urban Planning*

1. INTRODUCTION

Physical activity of children in preschools has great importance to their overall development and future physical ability. In the modern world, children often grow up with new technological challenges, leading to a variety of bio-psycho-social problems in the later period. For these reasons it is necessary to children at preschool age to be encouraged to play and socialize outdoors.

Open spaces within a preschool institution should have adequate facilities that will be adapted to all ages, but also to meet the standards so that every child is safe while staying in kindergarten. The paper will investigate whether this is the case with kindergartens in Niš, because "most of the preschools were built in the 1970s and 1980s, and after 2000, and since then there is almost no investment in them." [1] Only a small number of kindergarten courtyards are partially decorated after construction.

Well designed space encourages activity, imagination and educational opportunities for children. In the world, much more attention is given to the open space in preschools, because "children remember places far better than they remember people and objects, therefore every

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detail of the area has to be planned to a single detail".[2] Design of the space has to meet the most important needs of the children:

- the need to feel safe, secure and to be superior in space;
- the need to be active - mentally and physically, and to be surrounded by a variety of facilities that will encourage their creativity;
- the need to achieve emotional relationship with space, to identify with it, and to find their place in it.[3]

How these needs are met in open spaces in preschool institutions in Niš, and how many of them are actually intended for the care of children are the questions to which answer is going to be found in the next part of the paper.

Through the analysis of the preschools that are located in Niš, this paper presents problems that occur in open areas, but also provides guidelines for their elimination.

2. REVIEW OF THE SITUATION OF OPEN SPACES FOR PRESCHOOL EDUCATION IN NIŠ

The city of Niš is located in southeast Serbia and represents the third largest city in Serbia after Belgrade and Novi Sad. The largest economic, industrial and urban development of Niš is related to the period of socialist rule. This period is remembered in the history of the city as a period of rapid urban expansion, construction of residential complexes, all due to rapid population growth. During that period, precisely because of the settling of the city of Niš (population in 1953 was 122,100, but this number rose to 232,563 in 1981.) [4] the largest number of preschool institutions have been built in the city of Niš.

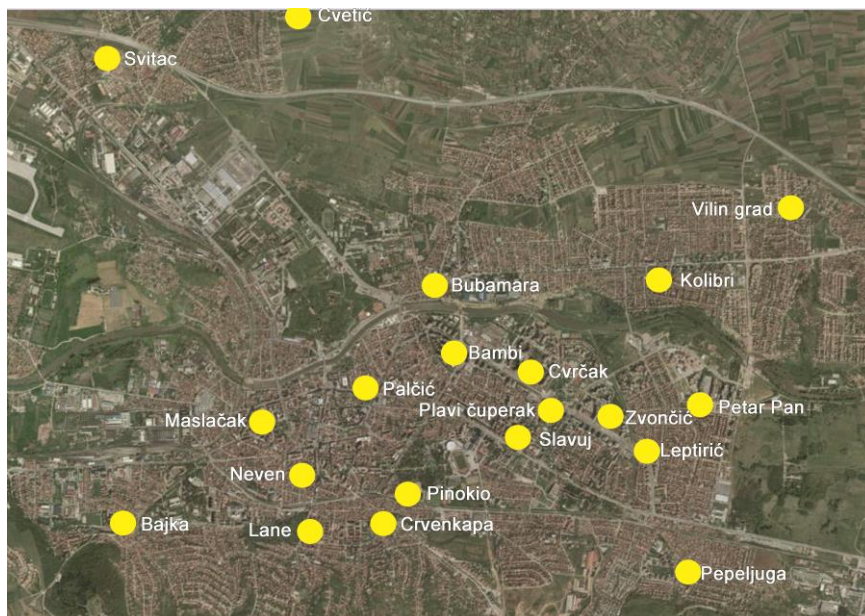


Fig. 1 Preschool institutions in the city of Niš

After this period there is a lull in the construction of preschools, so the first preschool was built in 1992 (Zvoncic), while in the later period from 2000 up to now only 4 institutions have been built (Vilin grad, Svitac, Peter Pan and Cvetić). This pause came as a consequence of the political and economical situation in the country during the 90s. Today in the city of Niš, there is a total of 20 kindergartens. (Fig. 1)

2.1 Analysis of the situation of open spaces for preschool education in Niš

The content and organization of the yards has been analysed by looking at open areas in preschools, which are in the city of Niš. All of the preschools are designed differently one from another and in different periods of time, and therefore the problems that arise are also different. In this paper problems that are outlined are typical for most preschools. Beside typical problems, preschools have individual problems and they have found place in this paper too.

Each of these parameters was analyzed based on the site visit and the information collected in the field. Situation in preschools is presented in the following table:

Table 1 Analysis of open spaces for preschool education in Niš

Preschool	Year of Const.	Facilities	Design of the yard
Svitac	2002	+playground for children exists - many playing devices are dysfunctional	-non existence of street furniture -path around the building do not exist -entrance directly from the street
Maslačak	1976-79	+new playground +new and attractive contents for children	-non existence of street furniture -open space classroom is not functional -paths around object are ruined
Neven	1973	- playground for children exists but is not safe for use	+ street furniture exists - entrance directly from the street -non existence of green surfaces which could separate yard from the street
Bajka	1975-77	-insufficiency of contents for children playing	+existence of street furniture +open space classrooms are in function and safe for children
Lane	1967	-non existence of children playground	-yard is completely covered with concrete -no green surfaces -non existence of street furniture
Bubamara	1963	+new contents for children playing	+green surface which separates yard from the street +well designed green surfaces and paths +existence of complete street furniture

Bambi	1978-81	+new playground +existence of old playground which is also in function	+existence of street furniture +new green surface planted near high traffic crossroad
Palčić	1962	+existence of children playground +new attractive contents	+existence of following street furniture -no entrance for disabled children, parents, staff and other visitors +well designed green surfaces
Plavi čuperak	1974	-place for children playing almost does not exist	+existence of street furniture
Pinokio	1979-81	- place for children playing almost does not exist	-preschool institution shares yard with another institution for social care -green surfaces are not safe for use
Crvenkapa	1978	+existence of children playground	+existence of street furniture +well organised paths and spacious green surfaces -not separated enough from the high traffic street
Cvrčak	1983-84	+new playground -old playground is not in function	+existence of street furniture +well organised green surfaces
Vilin grad	2001	+playground exists -insufficient contents at playground	+existence of street furniture +well organised green surfaces
Kolibri	1975	+existence of new children playground	- no entrance for disabled children, parents, staff and other visitors +existence of street furniture
Zvončić	1990-92	+existence of playground -some of contents are not functional	+existence of street furniture
Leptirić	1978-81	+existence of children playground -some of contents are not in use	-paths and open space classrooms are ruined -existence of street furniture but some of the benches are damaged
Petar Pan	2005	+existence of playground -some of contents are not functional	+existence of street furniture +well designed paths and green surfaces
Slavuj	1964	+new content for children	+existence of street furniture
Cvetić	2011	+existence of children playground	+existence of street furniture
Pepeljuga	1980-82	+ playground does not exist	- no entrance for disabled children, parents, staff and other visitors -not well organised yard with insufficient street furniture

Structure of the open spaces where children can freely spend their time, to play, learn and socialize with their peers is very important because "staying in outdoors and playing is very good for improvement of motor functions and development of children." [5] For

this reason condition open spaces in preschools in Niš has been analysed in this paper. Structure of the yards has been analysed through the state of paths in the yards, the representation of vegetation, possession of ramps for disabled persons, the condition of facilities intended for outdoor learning, whether preschool yard is bright in the evening or not and if it is adequately equipped with benches and bins.

Even though the main beneficiaries of these institutions are children aged from 3 to 5 years, in some of preschools, staying of younger children than that is also organised. For these institutions is necessary to have the ramp for children and parents in wheel-chairs installed. The lack of a ramp has been detected at "Pepeljuga" (Fig. 2) preschool institution, but also at "Kolibri" and "Palčić". Also, in the garden of the "Maslacak" there are the stairs in the yard to level the terrain which inactivates movement of parents with a wheelchair to the entrance, while a ramp at the entrance to the building is there.

Equipping of open spaces with benches, trash cans and light are necessary in preschools (Fig. 3). However, lack of street furniture has been noticed in "Lane", "Maslacak", "Svitac", while in some of the other preschools it is under-represented or inappropriate for use. When it comes to green spaces, "Lane", is in the worst position whose entire outdoor area is covered with concrete. This is a negative example because the children need a part of a yard to play in, and also the part which will be enriched with greenery. "Open space that is rich in natural characteristics can strongly stimulate the sense of studying and detecting in children".[6]

Other preschools have green areas and areas rich with trees in which is pleasant to stay. Paths inside of a yard are often ingrown and neglected. This low standard of decoration is the result of disinvestment in preschools. The tiled floor has been noticed in the newly built institutions as Peter Pan and Cvetić, while more adequate materials used in the world in the design of these open spaces, in Niš are not applicable.



Fig. 2 There is no ramp at the entrance, Pepeljuga



Fig. 3 Street furniture in "Plavi čuperak"

Open classrooms are designed in the following preschools: Bajka, Bambi, Leptirić, Maslačak, Vilin grad, Neven and Zvončić. These spaces allow teachers to work with children in the outdoor which makes the time spent in preschools interesting. These classrooms should be fenced in order to ensure children to be safe while staying in them. A common case is that

preschools do not use these areas so they are often ruined and unsafe for the care of children (Figure 4).

When it comes to design of the yard, it must be taken into account that the paths for children and those which are used for economic purposes have to be separated from each other. This is observed in every preschool institution. In all preschools, waste is separated from children and fenced appropriately. Also, entrance of the building has to facing the yard and not directly the street. This is in order to increase the safety of children on arrival and departure from the institution. Unfortunately this is not the case at all structures, in Neven and Svitac, an entrance to the building is accessed directly from the sidewalk, which puts safety of children on a low level.

Another negative side which was noticed are numerous of graffiti which are drawn on the facades of the building and equipment. Only preschool institution in the city of Niš that stood up successfully against graffiti is Slavuj. Instead of graffiti, carefully planned drawings, suitable to children, can be found on the walls of this institution. Important indicators of safety of the children are the level of isolation from environment and facilities that are safe to use. Each of the observed objects has an adequately fenced yard in order to ensure right protection to children. Still in some cases this fence can't be sufficient for preschool institutions which are placed in the streets with heavy traffic. A good example of a solution for this issue is noticed at Bambi, which is placed right next to heavy traffic boulevard, and beside fence, there is greenery placed next to the fence which is a good protection for the youngest (Figure 5).



Fig. 4 Ruined trails and outdoor classrooms, Maslačak



Fig. 5 The buffer layer of greenery, Bambi

In this courtyard, as in most of others, parking space that could be used by the parents is not planned, so the issue of security has been raised through this parameter. The safety of children in open areas is most threatened by the ruined paths in which it had not been invested for years. Similar to paths, the playgrounds and street furniture service lives are often expired lifetime and out of use (Fig. 6).

Since users of this space are children, open spaces need to meet their needs for different types of activities, and as well to be covered with adequate facilities for their age. Because of these reasons, playgrounds are an important segment of the design of preschool institutions. The newly designed playgrounds (Fig. 7. and Fig. 8.) for children are placed next to following institutions Kolibri, Cvrčak, Bambi, Bubamara and Maslačak.



Fig. 6 The course is not in operation, Neven



Fig. 7 New facilities for children to play, Bubamara

These playgrounds are additionally fenced in order to prevent them from damage. Such playgrounds represent a refreshment in the monotonous appearance of the yards which has been observed in most of the preschools. Renovated preschool in 2014, Slavuj, because of new equipment installed in playground, became attractive for the youngest. Although the oldest preschool in Niš, Palcic has been furnished and decorated with new equipment, and now it represents one of the preschools with the best open space in the city of Niš. A further problem of preschools in Niš are ruined playgrounds which are not in use today but they still represent a potential danger to children. Preschool institution Lane (Fig. 9) is an example of an institution with open space without any equipment for children to play, and this is also one of the spotted problems. The surface on which playgrounds are placed are grass or concrete, which means that none of the preschools uses new materials which are recommended for open spaces.



Fig. 8 New facilities for children to play, Cvrčak

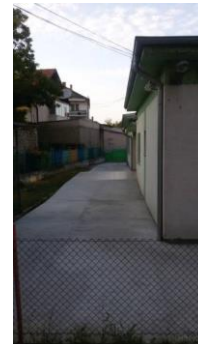


Fig. 9 The lack of playgrounds and street furniture, Lane

2.2. Discussion

Based on the analysis of open spaces in preschools which are located on the territory of Niš, the problems that they face have been spotted. Most problems can be classified into one of the following groups:

- problems caused by the lack of investment in open spaces
- problems caused by obstruction by other persons
- problems caused by poor urban plan for the respective preschool institution

In the first group we can see that these problems are related to insufficient investment and lack of regular maintenance of buildings. This includes problems like playgrounds that are not in use for years, ruined paths, neglected green spaces, and the lack of street furniture. The second group of problems that arise, are those resulting from obstruction by a third party, such as graffiti, broken street furniture and facilities, while the third group of problems is actually the result of poor design of open spaces intended for children. The absence of a ramp to the entrance to the building, lack of green areas, playgrounds, as well as an entrance to the building that is accessed directly from the street are just a few of them. The last group consists of the most complex problems because it is the most difficult to influence the solutions in the future.

According to above problems that occur, one of the main shortcomings comes directly from the design of yards, which for these reasons deserves to have a more important role. As a consequence, there is the fact that none of the preschools can be distinguished by having an innovative solution. All preschool institutions in Niš resemble each other, which is due to the fact that the newly designed content types are being copied from one to another. This kind of design indicates that there is no thoughtful design for each particular location. Design and solution that will attract children to remain in preschools are lacking. Looking at the results, in terms of green areas, it can be concluded that they are often neglected, and even more, in some cases they don't exist at the site at all. The result is an unattractive courtyard covered with concrete and rarely used. When designing the preschool institution, it is necessary to take into consideration the designed number of children. Beside the number of children, the needs of the children according to their age and lot size on which building and yard have to be built are very important to be taken into account. In some preschools, new playgrounds with attractive content have been built. However, these new playgrounds are in most cases surrounded by high fences in order to be preserved from destruction. From this fact comes the question whether they make a single entity, surrounded with rest of the yard and in the same time divided with fence? The answer is negative, and the consequences of such solutions in most cases are focus on maintenance of new playground, while the rest of the yard remains in poor condition and neglected, and in that way represents a danger to the children.

When comparing the year of construction of the object and the state of open space, it can be seen that the age of the buildings itself does not directly affect the condition of open spaces. The reason for this result is that some of the old preschools are completely renovated, and in the same time yards of the new institutions are in state which is not satisfactory at all.

3. CONCLUSION

Outdoor spaces have a great importance for improving the children's imagination, physical activity and educational opportunities during their stay in preschool institutions. In Niš, there are 20 preschool institutions, which have been analyzed in this paper in order to draw attention to the situation in the region and the problems they face. From the discussion of the obtained results it can be concluded that the open spaces that are located within these institutions in Niš reports a number of problems that have been caused due to negligence, inadequate urban project for a corresponding plot, but also by the destruction of preschools by a third party. The above leads to the conclusion that the reconstruction of these areas is necessary. Adequate treatment would prevent further deterioration of open spaces and thereby refine a space intended for the youngest.

Each of the preschools is faced with different problems. In some of them redesign of the playground or extra street furniture would be enough to level them up. However in most of them analytical approach is needed to be performed in order to eliminate most of the problems and to put outdoor spaces at a high visual, functional and a safety levels.

The new design of outdoor spaces should include design of paths and green areas, implementation of new content, adequate surface for children play, new street furniture, but also solutions that include increasing of safety during stay of children. In addition to design of yard area, new solutions have to include the renovation of the facades that were destroyed and in that way make outdoor space even worse.

Design of open spaces should be adapted to the existing level of planning, the needs of children and urban conditions of the location itself. Each preschool should have authentic solution that will make it more comfortable for children, and in this case children will find it much easier to accept to spend a significant part of the day there.

Systematic solutions for each of the analyzed preschool institutions gives the space that allows the children a pleasant stay, and reduces concern of parents regarding safety and activity of their children. However, investment in children's institutions not only represents a gain for children, parents and staff, but also to the entire local community. Investing in redesign of preschools will represent the increase of living standards for the entire city of Niš.

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UREĐENJE PROSTORA NA OTVORENOM KOD PREDŠKOLSKIH USTANOVA NA NIVOU GRADA NIŠA

Otvoreni prostori u okviru predškolskih ustanova potrebno je detaljno planirati prilikom projektovanja samog objekata. Ovi prostori deci koja koriste usluge obdanište boravak čine interesantnijim, pa je iz tih razloga potrebno pažljivo isplanirati sadržaje koji će se naći u dvorištima, postaviti odgovarajući mobilijar, prostor oplemeniti zelenilom. Ove urbanističke parametre uzeli smo u obzir kada smo posmatrali otvorene prostore u obdaništima na teritoriji grada Niša. U radu će biti analizirano svih 20 obdaništa, a sve u cilju da se ukaže na stanje ovih prostora i probleme sa kojima se oni susreću.

Ključne reči: *otvoreni prostori, prostori za igru dece, obdaništa, grad Niš, urbanizam*