MODERN DESIGN OF A CHILDREN 'S ZONE IN NATURAL PARK VITOSHA

Krastyo Zgurovski, Milena Zdravcheva

Summary: In the Bulgarian winter resorts, the need for modern sport-animation services, oriented to the smallest ones, is still underestimated. The present work demonstrates how a modern ski area for children, meeting current standards, can be built with creative design solutions tailored to the legal framework, the terrain conditions, the needs and potential of the potentially interested parties. Along with the theoretical contribution, the study offers a model that responds to real terrain and is feasible in practice.

Key words: sports-animation services, adapted training areas, attraction facilities

Snow sports are an essential tool for physical education and sports during the winter months of the year. The improvement of the methodology and the equipment and the improvement of the infrastructure in our winter resorts have created conditions for ski training from early childhood. The available snow and artificial equipment are for easy introduction of the beginner skiers in the winter mountainous conditions. However, when it comes to children, the skiing area must be richly decorated with fabulous characters, secured and adapted to appropriate terrain shapes and facilities (Zgurovski, Yankov, 2007). This adds to the learning experience, which directly affects the short-term motivation of the children and, in general, their desire to practice. That's why we set ourselves the goal to offer a modern project for a children's ski area in one of the places where most children are trained – Vitosha Mountain.

Purpose: Developing a modern project for a children's ski area, adapted to the conditions of the terrain.

Tasks: 1. Study of the normative basis regulating the construction of a children's ski zone.

2. Comparative analysis of the conditions in which this service is offered in Bulgaria, compared to the world experience.

3. Select location and terrain. Developing a modern project for a children's ski area, adapted to the conditions of the terrain.

The Bulgarian winter resorts have invested in different directions in recent years, increasing their popularity worldwide and placing their sports and cartoon services in a highly competitive environ-

ment. However, with regard to children's sports, development opportunities are still underestimated. The present work demonstrates how a modern ski area for children, meeting current standards, can be built with creative design solutions tailored to the legal framework, the terrain conditions, the needs and potential of the potentially interested parties. Along with the theoretical contribution, the study offers an eye-catching model that responds to real terrain and is feasible in practice.

Methodology and methods

for the elaboration of the present project, an interview and an interview with experts – three teachers from the National Sports Academy: Prof. Krastyo Zgurovski, Assoc. Prof. Petar Yankov, Deyan Todorov, directors and employees of „Machirski sport ski schools“, „Moten“, Marina Sport“, Yulen „Boro Sport School“, „Pamporovo AD Ski School“.

Four experts from the Bulgarian Demo team, who participated in workshops for children during the last congress of ski teachers, helped us with analysis. In this way we analyzed and compared World experience and that of the Bulgarian ski resorts offering the service.

We sought the services of design experts in the realization of the Ophelia children's ski area project – Petya Zdravcheva, engineer Stefan Doshev. Through Adobe Photoshop CC, Autodesk Sketch Book Pro 2015, the ski area was created.

Results and discussion

In the Law on Tourism, we did not find precise criteria governing the construction of a children's ski area, but in § 1, item 77 of the Additional Provisions thereto the following definition was given: "Chil-

dren's ski area is a separate area for practicing snow sports from children up to 6 age-old ... equipped with snow-tools and other materials to ensure a safe and safe practice of snow sports according to the age-specific characteristics of children..." (Ordinance for categorizing ski runs, 2007). By comparison: in Italy, Austria and Germany this type of service is clearly regulated. We believe that there should be criteria in our country to allow the standardization of children's ski areas, similar to the categorization of ski slopes.

In connection with our choice of location for our project, we have also reviewed the Vitosha NP Management Plan, which regulates the coordination of the efforts of the authorized state bodies as well as the rights and interests of the owners and users in order to regulate precisely all types of zones with their limits, suitability and limitations for tourist use. According to the Plan, the Ophelia ski center falls under the category "Tourist formations and settlements". In part 3.2. of the Plan, which regulates the regimes and norms for the management of activities in the nature park, three categories of their treatment are unified: promotion, admis-

sion and non-admission. At Golden Bridges-Ophelia-Konyarnika Center, repairs and reconstructions of existing sites and facilities are encouraged in order to increase the category and the level of service; Temporary bungalows or vans in the Ophelia area are allowed to serve visitors and skiers (Management Plan of Vitosha NP, 2005). Considering these norms and the nature of the facilities to be used in the design of the children's ski area, namely their mobility and ecology, we can say that its construction will not disturb the biological and landscape diversity.

A comparative analysis of the conditions in which it is offered child ski service in Bulgaria, to the world experience.

The survey has shown that some of the most visited winter resorts in Bulgaria have previously made attempts to build specialized children's ski areas. However, the equipment and supplies used in them do not correspond to the current trend, which is shown in comparative terms by the following indicators presented in Table 1.

Table 1. Condition of the Bulgarian standard versus the world on the indicators surveyed.

Indicators	World experience	Bulgarian	Borovets	Bansko	Pamporovo	Vitosha Mountai
1. The presence of an animator (animated character)	+	+	+	+	+	-
2. The presence of cartoon characters	+	-	-	-	-	-
3. Thematic area (magical path, speaker system)	+	-	-	-	-	-
4. Solid foam figures indicating different areas in the children's ski garden	+	+	+	+	+	-
5. Devices for different configurations of children's ski tracks	+	+	+	+	+	+
6. Rails and waves	+	-	-	-	-	-
7. Ramp	+	-	-	-	-	-
8. Step-up climbing facility	+	-	-	-	-	-
9. Rotondo carousel	+	+	+	+	-	-
10. "Magic carpet" - a climbing device	+	+	+	+	+	-
11. Plastic slopes.	+	+	-	+	-	-
12. Equipped children's rest rooms.	+	+	+	+	+	-
13. Safety	+	+	+	+	+	+
14. Legislative basis and regulation of children's ski areas	+	-	-	-	-	-
15. Attraction facilities typical of amusement parks.	+	-	-	-	-	-
in general	15	8	7	8	6	2
	0	7	8	7	9	13

used indicators	+
missing indicators	-

In order to form a detailed idea in its entirety, we made a comparative analysis of the categories considered as follows:

- Percentage of used and unused indicators in Bulgaria;
- Percentage ratio of the level of Bulgarian ski resorts to the world experience.

The results are presented in Figure 1 and Figure 2.

Figure 1. Percentage ratio between used and unused indicators in Bulgaria.

It is clear from the comparison that in the Bulgarian ski resorts the ratio of used and unused indicators is in favor of the available equipment, appliances and tools that correspond to the world trends (53%). The most favorable is the situation in Bansko (8 metrics), and the worst – in Vitosha (only 2 metrics).

Figure 2. Percentage ratio of the level of Bulgarian ski resorts World experience.

At the same time, all the native ski resorts use equipment for different configurations of children's tracks, and also meet the requirements for securing these areas. The analysis showed that, despite

the attempts of our leading winter resorts to offer adapted ski training areas for the smallest ones, we still do not have key appliances and equipment that are widely used in the world. Bansko Ski Center is most close to metrics (53.36%), followed by Borovets (46.69%) and Pamporovo (40.02%). The ski areas of Vitosha with the two indicators covered are the last (13.34%). The average result of the studied Bulgarian ski resorts is 38.35% compared to the world experience.

Choosing a plot to develop a project for a children's ski area.

As a result of the analysis of the world experience and the main features of the modern children's ski areas we can say that for the construction of such a skiing zone it is necessary: a) appropriate location with favorable weather conditions (low mountain zone, forest belt, south exposure; 4-season gear); b) the concessionaire of the zone; (c) well-maintained infrastructure.

On the basis of these criteria, we decided to focus on a part of Golden Bridge-Ophelie-Konynarnika, namely the Ophelie ski center. The area is located in the Vitosha mountain, 12.5 km from Boyana district and 3.5 km above the Golden Bridges in the direction of the Boeritsa hut. The altitude is 1540 m. The Machirski sport ski school has a concession on the track and the sloping platform beside it. On the territory of the area there is a qualified mountain rescuer and 2 chalets – Ophelia and Malinka. School boards are 50 meters from the base. The school board has an area of 3 decares and ends with an incline. Its length is between 55 and 65 m. The slope ratio is equal to 1: 3 of the total area. The slope is 5–6%, the width of the plate 60–65 m, GPS coordinates 42°35' 56.1"N 23°14' 07.6"E.

The Ophelie Circuit is one of the best for the initial training of skiers of all ages. Its length is 180 m at a width of 100 m, a displacement of 25 m and an average slope of 16–17%. Served by 2 climbing facilities. The two plates are connected with a wide flat meadow. The exposition of the big plate is north-west, and the small – southeast. They are located in the forest belt of the mountain and the weather is calm and soft even in the coldest winter days. The premises of Ophelia are owned by the Mountain Rescue Service and are conceded at the Machirski sport ski school. By means of reconstruction and

reorganization of the movable objects (two wagons – ski wardrobes) another warm room for the tourists was established.

Development of a project for a children's ski zone.

We divided the whole ski area into five learning areas (Figure 3). The entrance is on the south side of the plateau and is marked with a high arch, which we have placed an information plate with the 10 basic ski rules (Figure 4).

Figure 3. Children's project the Ophelia ski area

Figure 4. Entrance to children's ski area

On Polygon 1 (Figure 5) we placed the so-called magical path. We chose this place because it is equal and the children will not have difficulty walking along the route. On polygon 2 (Figure 6) a rotate carousel will be installed. The terrain is suitable because it is flat and allows the installation of special pavements during the summer to make full use of the 4-season facility.

Figure 5. Polygon 1.

Figure 6. Polygon 2.

The third polygon (Figure 7) covers the southwestern part of the plate. There, the slope is 5–6%, making it suitable for the installation of an auxiliary mobile gear for stepping climbing. Routes for right-down and sliding and stopping plows will also be configured on both sides. An arch will be installed at the start of each route.

In the downhill submarine, we used the “Baba Yaga” arch – its design is such that at a stroke the figure rotates at 360°. After that, we placed a

“mushroom” arch with a height of 110 cm below which the children will pass from high to low ski stand. There are two models of giants with a height of 240 cm, which, next to each other, form a tunnel. The children have to stretch out to hit the giants on their hands. The design of this configuration is the transition from low to high ski stand. The last challenge is at the end of the polygon: “ripples”, imitating bumps or bumps.

On the other side, we set up a track to study the sliding and stopping piste, again with a starting arch. Using two cones, we tagged the Baba Yaga hat – the place where the kids will be practicing in a sliding plow. At 4 meters behind it are placed two models of “fir trees”, where the children have to stop with a stopping plow.

Figure 7. Polygon 3.

Figure 8. Polygon 4.

The fourth is in the northwest of the plaza. There will be installed a “Magic Carpet” – an escalator with a length of 30 m. The area is again divided into two sub-sections – left and right, – marked with

starting arches. The left-hand sub-area is for the use of arcs with a snow-plow, and the right – for their improvement. A so-called “snow snake” is configured at the top of the left sub-zone. It is composed of segments of 750 cm, allowing it to be modified in different lengths.

Figure 9. Snow Snake.

Figure 10. Polygon 5.

In the lower sub-area, we placed two models of “fir trees”, along which to make two more turns in both directions – alone, without the “snake”. On the left side there is arranged the track for improvement of the arc element with snow plow. Five mushroom markers are placed in order to perform associated plow arcs. After that there is a rail mounted – “jump” (Figure 8).

Polyline 5 covers the smallest area of the board. It is located in the flat area between Poligon 2 and Poligon 1 and is designed for active rest. Here we put two benches and mock-ups of foam animals.

Conclusion

The construction of modern children's ski areas includes the use of specialized facilities, appliances and equipment, some of which are 4-seasonal. They

predispose children to skiing activities by helping them learn a basic, safe, accessible and entertaining way to learn the basic ski skills, to get used to the equipment, the winter conditions in the mountains and the basic rules of conduct on the track. The great variety of childcare facilities allows small skiers to quickly and easily integrate into this new situation.

The comparative analysis showed that in Bulgaria the quality of provision of such services is almost 2 times lower than in the world's leading ski centers. Despite this fact, every winter of Vitosha teaches thousands of children in the absence of a children's ski area. In recent years the management of our major winter resorts – Bansko, Borovets, Vitosha and Pamporovo – has demonstrated a longing for alignment with the world standards in this tourism

sector. The normative documents allow the construction of children's ski areas on the territory of Vitosha NP, there are suitable terrains and it is only a matter of time to do so.

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