

# Landscaping of Montenegrin resorts: Adriatic coast and the Bay of Kotor

Małgorzata Hryniewicz<sup>1</sup>, Andrii Dmytrenko<sup>2</sup>, Oleksandr Kashchenko<sup>3</sup>,  
Yuliia Tretiak<sup>3</sup>, Michał Krupa<sup>1</sup>, Hanna Yablonska<sup>3</sup>, Olena Yaremchuk<sup>3</sup>  
*Cracow University of Technology<sup>1</sup>, Poland*  
*National University "Yuri Kondratyuk Poltava Polytechnic"<sup>2</sup>, Ukraine*  
*Kyiv National University of Construction and Architecture<sup>3</sup>, Ukraine*

**Abstract.** The article analyzes the features of landscape design of two different subzones of Montenegro – the northern part of the Adriatic coast and the Bay of Kotor. The aim of the article is to identify the main natural and urban planning factors that determine the nature of greening in the resort towns of the North Coastal region of Montenegro, characteristic techniques of greening and basic approaches to landscape design of the territory of recreational facilities. The methods of geospatial analysis, historical analysis and comparative analysis were used. As a result of the study, the determining role of relief in the predominance of certain methods of greening of resort towns was proven. Comparison of greening techniques of the resort towns of Herceg Novi and Budva showed greater compliance with the local flora of greening in Herceg Novi and greater exotic landscaping of the tourist area of the Adriatic coast – so called Budva Riviera. Seven characteristic methods of landscape design in the resort towns of the North Coastal region of Montenegro have been identified. Two main approaches to the landscape design of the territory of recreational facilities have been identified: "closed", when a closed environment of a recreational facility is created according to the "city within a city" principle with extensive use of stylization techniques and exotic plants, and "open", when views on the attractive natural landscapes or on historical buildings, and landscaping mainly uses local plant species.

**Keywords:** landscape design, resort regions, Montenegro, Adriatic coast, Bay of Kotor

## Introduction

Montenegro is a country in South-Eastern Europe that was once a part of Yugoslavia, fully independent since June 2006, when the confederation of republics of Serbia and Montenegro (proclaimed after the breakup of Yugoslavia) finally dissolved.

The economy of Montenegro is mostly service-based, where tourism plays an important role [13].

The territory of Montenegro is conventionally divided into Coastal Region (Primorska Crna Gora), Central Region (Submediteranska Crna Gora) and Inland Region (Planinsko-Kotlinska Crna Gora) (Fig. 1). Most of the country is the Dinaric Alps, along the border with Albania and Kosovo are the Northern Albanian Alps, in the southeast – the Montenegrin karst plateau with the Zeta Valley [14].

Different parts of the country have different climatic conditions: in central and northern Montenegro the climate is moderately continental (the nature of which is determined by altitude zonation) with moderately warm summers and relatively cold winters, on the Adriatic coast – the Mediterranean with long hot and fairly dry summers and short, mild and rainy winters.

Climatic and geographical diversity of the country determines the spread of various plants and trees in different regions (about 2833 species of plants, of which 212 grow within the Balkan Peninsula, 22 – only in Montenegro).

During the historical development, the vegetation of Montenegro has changed dramatically, as a result of the felling of oaks and cypresses that grew on the coast

since ancient times, due to soil erosion, they were replaced by Mediterranean shrub vegetation, the so-called "maquis".

The Coastal Region of Montenegro is the main resort area, which accounts for more than 90 % of all tourists. It is conventionally divided into North Coast and South Coast regions. The first includes Bay of Kotor (about 28 kilometres long with a shoreline extending 107.3 kilometres) with main centres in Herceg Novi, Tivat, Kotor, Risan, Perast towns and so called Budva Riviera – 35 km long strip of the Adriatic coast with main centre in the town of Budva and smaller settlements – Bečići, Pržno, Sveti Stefan, Petrovac na Moru. The centre of the South Coast Region is the town of Ulcinj with the country's longest 13 km-long beach Velika Plaža stretched from Port Milena in Ulcinj to the Bojana River, among other settlements in the region are Bar – the only deep water port in the country, and Sutomore.

The South Coastal region is significantly inferior to the North one in terms of the number of historical monuments and is relatively new from the point of view of tourism development; therefore it is not considered in the article.

The North Coastal Region attracts tourists not only with its beautiful beaches, but also with many architectural monuments. The area surrounding the Bay of Kotor (also known as the Boka region), as well as the historically connected town of Budva, until 1918 were successively ruled by the Byzantine Empire,



Fig. 1. Municipalities and Statistical Regions of Montenegro  
[from author's private archive]



Fig. 2. Physical map of the North Coast Region of Montenegro.  
The towns of Herceg Novi, Tivat and Budva are shown  
[from author's private archive]



Fig. 3. Map of Herceg Novi.  
[<https://ontheworldmap.com/montenegro/city/herceg-novi/large-detailed-map-of-herceg-novi.jpg>]

the Venetian Republic and the Austrian (Austro-Hungarian) Empire [12]. Various cultural influences are reflected not only in architecture but also in landscape design.

A characteristic feature of the seaside resort towns of Montenegro is the use of subtropical plants imported from other countries (the most recognizable of which is the *Phoenix canariensis* palm tree), however, the extent of their distribution and landscaping techniques differ significantly in different seaside resort towns, despite practically the same climatic conditions.

The aim of the article is to identify the main natural and urban planning factors that determine the nature of greening in the resort towns of the North Coastal region of Montenegro, characteristic techniques of greening and basic approaches to landscape design of the territory of recreational facilities. The objectives of the study are as follows:

- to investigate the influence of terrain on the formation of landscape design of various resort towns of the North Coastal region of Montenegro;
- to analyze the landscape design of resorts from the point of view of the historical environment of the town and the influence of landscape design on the perception of architecture in the natural environment;
- to determine specific methods of landscaping;
- to analyze the main trends of landscape design of the territory of recreational facilities (hotel complexes).

To reveal the research topic, sources were elaborated in the following areas:

- the article by Al Basha N., Eplényi A., Sándor G. [1] were elaborated to substantiate the theme of natural stone inherent in Montenegro as a background for landscapes and elements of landscape design;
- to identify specific factors affecting the landscape design of resorts (mainly European) articles by Balode L. [2], Jiang S. [6], Nitavska N., Skujāne D. [9], Ziemehlniece A., Balode L. [15] were developed;
- to consider the impact of landscaping on the image of architecture, the article of Ivashko Y., Kuzmenko T., Li S., Chang P. [5] was studied;
- for a fuller elucidation of the interaction between the space of historical cities and landscaping, works were studied in which the problems of degradation of the cultural landscape and historical environment are covered – articles by Birer E., Adem P. Ç. [2], Pujia L. [10];
- sources from the history, geography and economy of Montenegro were used – the official statistical website of Montenegro [13], the works of Luković N. [7], Roberts E. [12], Šehić Denis, Šehić Demir, Bertić I. [14];
- modern landscape design projects of hotels and apartments located in seaside resort towns of Montenegro [4], [8], [11] were analyzed.

## Materials and Methods

The solution of the research tasks led to the choice of general scientific research methods.

The method of geospatial analysis was applied to study the natural relief of various Montenegrin resort towns and analyze its impact on the nature of landscaping. The method of historical analysis made it possible to trace the process of the spread of exotic plants in the landscape design of resort towns in the studied region. The method of comparative analysis allowed us to compare these phenomena over time and identify commonalities and differences in trends.

Author's photo fixation became the evidence base. Town plans and materials of modern landscape design projects of recreational facilities in Montenegro were also used.

## Results and Discussions

Three resort cities were chosen for consideration: Herceg Novi, Tivat (Bay of Kotor region) and Budva (Budva Riviera) (Fig.2). When choosing, the features of the terrain were taken into account. If along almost the entire coast of the Bay of Kotor the mountains come close to the water (as in Herceg Novi), then in the eastern part of the coast of the bay (Tivat), as well as on the Adriatic coast (Budva), there is enough space for the location of cities on a relatively flat area (taking into account their relatively small size). The terrain directly affects the functional and planning structure of towns, and therefore should also affect the organization of urban green spaces.

### The Bay of Kotor and its subdivisions

The Bay of Kotor (Boka Kotorska) is a general name for a bay of complex shape, which in turn is divided into several smaller broad bays, united by narrower channels. Each of these parts of the great bay got its name from the largest town located on its coast.

The widest part of the bay is the Bay of Tivat. On the seaward side is the Bay of Herceg Novi, at the main entrance to the Bay of Kotor. The inner bays are the Bay of Risan to the northwest and the Bay of Kotor (in narrow sense) to the southeast.

The Bay of Kotor and the Bay of Herceg Novi are one of the most famous resort areas in Montenegro, and these bays are very different – the Bay of Kotor is calmer and quieter, the Bay of Herceg Novi is larger, with open spaces and picturesque prospects.

The picturesqueness of the Bay of Kotor is due to the contrast of high black mountains and a narrow strip of water with the coastline, where along the bay are scattered picturesque small settlements. The local tradition is to place churches, chapels and monasteries on the mountains and islands: on the island of St. George there is a monastery, on the man-made island of the Virgin on the Reef – a church).

The picturesqueness of Herceg-Novu Bay is due to the natural combination of water and symmetrically located on both sides of the green steep mountains that descend steeply to the water, so the coastline is very

narrow, and it is here, near the water, the buildings are concentrated.

The town of Herceg Novi is located on a steep terrain, which accordingly determined the nature of urban housing and public development, and landscaping, which are terraced on several levels (Fig. 3).

The main street of Herceg Novi – Njegoševa Street – is also narrow, framed by magnolias and conifers growing on the slope. There are very few relatively flat areas in the coastal part, so the city park adjacent to the main street is organized by terracing and separated by retaining walls both from the main street and from the coastal part, and the main administrative square of the city is generally a complex two-level structure.

The greening of Herceg Novi combines landscaped and natural areas. There are small well-thought-out landscape compositions near temples and public areas, but the dense greenery along the fences and steep serpentine descents is untidy.

Classic sandy beaches, typical of the Adriatic coast, in Herceg Novi, as in other settlements around the Bay of Kotor, are relatively rare. The bottom is rocky, and there are a lot of large stones at the bottom near the shore, which makes swimming uncomfortable and not very safe. Therefore, in Herceg Novi there are a lot of artificial concrete beaches, ending with a vertical retaining wall, equipped with several ladders for descent into the water, like in a pool.

On the terrace, raised above sea level at 3 – 6 m along the coast, the main pedestrian promenade Šetalšte Pet Danica (Pet Danica Walkway) was laid. Above it a steep rocky slope rises overgrown with grass and agaves.

In one place the rock ledge goes so far into the sea that part of the walking route is laid in a tunnel. On the south-eastern side of the tunnel, on a rock facing the sea, a bronze sculpture is installed (Fig. 4).

The prevalence of agave for landscaping Herceg Novi is due to the local climate. Agave compositions are used as a natural frame for monuments, which are also worth mentioning.

On the example of Herceg Novi, it is possible to single out characteristic techniques of landscape design, which also take place in other Montenegrin resorts. A specific method of memorial landscaping in Montenegro is the surrounding of monuments dedicated to the historical figures (small, devoid of pomp, and commensurate with human stature) with plant compositions, where exotic plants often play the role of accents (Fig. 5).

Another such specific technique in conditions of complex terrain and fairly dense buildings (at least on relatively horizontal areas) is the use of landscaping as a kind of "green frame" or background for numerous architectural monuments.

A typical example of greenery as a "frame" for an architectural ensemble is the Orthodox church of St. Savior and the nearby Catholic church of St. George, perceived from the main street of the town (Fig. 6).





Fig. 4. Sculpture on a rock to the left of the entrance to the pedestrian tunnel on the coast of Herceg Novi [photo by A. Dmytrenko, 2021]



Fig. 5. Monument to the famous Serbian artist Petar Lubarda, who in 1946–1950 was a professor at an art school in Herceg Novi [photo by A. Dmytrenko, 2021]



Fig.6. Orthodox church of St. Savior (right) and Catholic church of St. George (left), view from the main street of Herceg Novi – Njegoševa Street [photo by A. Dmytrenko, 2021]

Types of plants and trees were chosen that would not cover the buildings of natural stone and at the same time emphasize their slenderness.

In front of the ensemble fence there are low groups of agaves, to the right of the Orthodox church and behind the Catholic church – very tall cypress trees, which visually contrast with the bell towers (in the form of a wall with slots where bells are hung), crowning the western facades of both church buildings. Interestingly, the town mosque is also located nearby, but in the depths of the quarter. Such peaceful coexistence of different religions and cultures is typical for the Bay of Kotor region, there is even a special name for local self-identification – Bokelj people [7].

In front of churches, as a rule, there is an open undeveloped space, limited either by a church fence or by low fan-shaped palm trees in flower beds. Sometimes one or two large trees grow near the church.

In the heart of the Old Town, next to the Church of St. Jeronim on the terraces overlooking the Bay of Herceg-Novi, there is a small memorial park, where grass and plants grow among the gray stone masonry. Oleanders and ivy complement the open exposition of a kind of anchor museum. There is also a Monument to the Heroes of Naval Battles on the Adriatic. The use of natural rocks or stone masonry as a background for landscaping is a fairly common technique of landscape design in conditions of dense construction and terrain differences.

Taking into account the resort specialization of the town, it is not surprising that green areas of limited use – areas of hotel complexes – very often exceed in size green areas of public use, such as a town park.

However, it should be taken into account that in Herceg Novi and the adjacent resort towns (Topla, Igalo, etc.), the most significant and prestigious hotel complexes are located near the coast.

Therefore the main attraction for tourists is not so much the landscape design of the hotel area, which would create an impression of a comfortable and moderately exotic environment isolated from the town, as much as the view from the room window of the Herceg-Novi Bay and the historical buildings.

This technique of "borrowed landscape scenery", known even in ancient China, is quite widespread in the landscape design of both existing and planned hotel complexes [8], [11].

A hotel complex, located on a slope, usually consists of several separate buildings, and its territory consists of terraces located at different levels, separated by retaining walls. Large horizontal planes (for example, sports grounds) are often arranged on the roof of underground parking lots. A typical example of such a hotel in Herceg Novi is Hunguest hotel Sun Resort (Fig. 7).

The hotel buildings do not significantly differ in shape or size from the surrounding buildings, and the internal pedestrian connections not only continue the direction of the adjacent streets, but are even from





Fig. 7. Schematic plan of the territory of the Hunguest Sun Resort hotel complex in Herceg Novi. [[https://www.hunguesthotels.hu/en/hotel/herceg\\_novi/hunguest\\_hotel\\_sun\\_resort/](https://www.hunguesthotels.hu/en/hotel/herceg_novi/hunguest_hotel_sun_resort/)]



Fig. 8. Landscaping of the territory of the Hunguest Sun Resort hotel complex in Herceg Novi [photo by A. Dmytrenko, 2021]

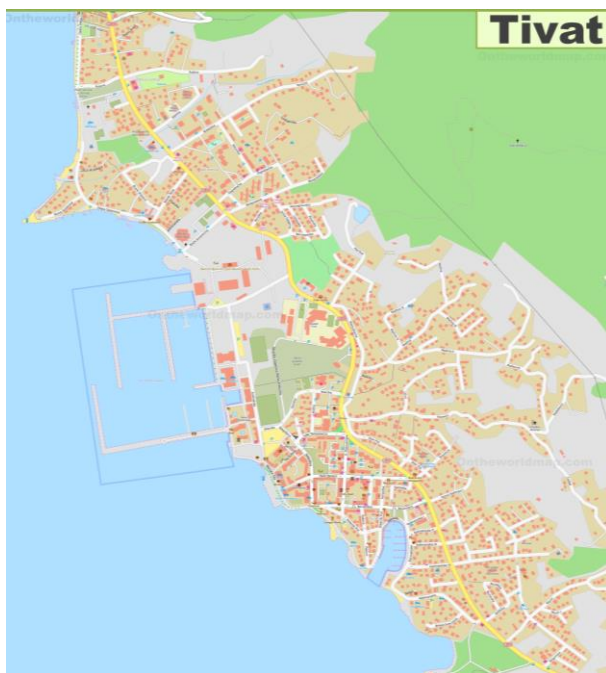


Fig. 9. Map of Tivat [<https://ontheworldmap.com/montenegro/city/tivat/large-detailed-map-of-tivat.html>]

a formal point of view – one of the internal pedestrian alleys of the hotel complex is marked on all maps of the city as a continuation of St. Bubala Street.

The open character of the spatial composition of the hotel complex determines the predominant use of local plants (mainly conifers) as landscaping, and exotic plants are used as separate accents. Magnolias are used among tropical plants.

On the territory of hotel complexes separate buildings are connected by covered galleries for walks in bad weather, around which there are green lawns with compositions of bushes, single agaves and trees (Fig. 8).

In those cases when the hotel complex or sanatorium is located on the town outskirts and it has its own large territory (for example, as Hotel and Health Center Igalo, located in the resort town of Igalo directly adjacent to Herceg Novi from the west), the landscaping of the territory has the character of a forest park with a predominance of local coniferous tree species (based on the therapeutic effect). The use of this specific method of greening the territory is typical for recreational complexes located in the foothills, relatively far from the sea, where there are natural forests, on the basis of which a similar forest park can be created.

Unlike Herceg Novi and most of the towns of the Bay of Kotor, Tivat is located on a more flat area. This was reflected in the planning of the town and the organization of its public green spaces (Fig. 9). Also, the unique history of the town influenced the nature of landscaping.

The Town Park in Tivat near Pržno beach is a unique example of Austro-Hungarian landscape design in Montenegro. This is the largest botanical garden in the South Adriatic, located on an area of 4 hectares. The park was planned on lands originally owned by noble local families – Radali and Lukovič. At the same time it is often called "Fleet Park" or "Naval", "Captain", because it was initiated in 1892 by the commander of the Navy of the Austro-Hungarian Monarchy, Admiral Maximilian Daublesky von Sternek, who wanted to arrange and green the territory of the shipbuilding complex for warships (Tivat arsenal). All seeds and seedlings were brought by military captains of the Austro-Hungarian fleet from the countries where they were. Naturally, the park became the source of the spread of exotic plants both in the towns around the Bay of Kotor and in Budva [7].

Today, the park has the status of a protected natural site, as it coexists with plants from around the world – Chilean fir, various species of larch, eucalyptus, cedar, pine, palm, magnolia, and even two trees of the Australian species *Araucaria bidwillii*, the only ones in Europe.

Gradually, the park has become a tourist attraction and a favorite vacation spot of citizens. Pedestrian paths were laid here, rain canals were arranged, an artificial pond and gazebos were built. Due to its unique flora and historical objects on its territory, in 1963 the park

received the status of a protected cultural and historical object. At the end of the 20th century, it was in a state of disrepair for some time, but gradually began to recover at the expense of powerful European environmental funds.

At the same time, it should be noted that in the landscape design of modern hotel complexes of Tivat located near the coast (Ritz-Carlton Montrose Resort and Residences), the same trends as in Herceg Novi can be traced: the predominant emphasis is on the view of the bay that opens from the hotel rooms ("borrowing landscape pictures"), the predominant use of local plants with exotic plants as separate accents.

At the same time, a partial reproduction of landscaping techniques traditional for this area (for example, for monastery gardens) is used. As noted on the website of the architectural company that developed the complex's project, "The resort welcomes guests through a series of bountiful productivity gardens inspired by the local monasteries and monastic gardens before opening to a terrace offering 270° views of the bay. Stepping down the hillside and moving through the hotel smaller gardens and gathering spaces are discovered along the journey to the Hotels main pool, SPA facilities and Event Lawn gardens with multiple opportunities for outdoor dining at the resorts F&B offerings" [11].

A similar approach is observed in the projects of large suburban hotel complexes located on large plots of land on the coast of the Bay of Kotor, such as Montrose Montenegro [8].

In the landscape design of the new mixed-use quarters of Tivat, such as Boka Place, where there are no panoramic views of the bay, and the main emphasis is on solving the inner quarter space, the basis of landscaping is also local plants [4]. Here, the same method of reproduction of traditional types of landscaping is used, as in the Ritz-Carlton Montrose Resort and Residences, only this object of imitation is not a monastery garden, but a residential courtyard or a small square in the historical part of the Bay of Kotor towns.

### **Synthesis of the Mediterranean and tropical landscape in the landscaping of the Adriatic coast resorts**

The largest resort centre on the Montenegrin North coast is Budva, whose development was formed in a spacious hollow between the mountains and the sea (Fig. 10).

The town of Budva is located in the central part of the Adriatic coast of Montenegro and is the centre of the municipal district with an area of 122 km<sup>2</sup>, with a combination of coastal strip and mountain landscape, which gives it a special exotic beauty, enhanced by landscaping. The town was founded 2,500 years ago and is considered one of the oldest settlements on the shores of the Adriatic Sea.

Budva and its environs are united in the so-called Budva Riviera, one the largest tourist centres in Montenegro. High mountains consist of sedimentary



Fig. 10. Map of Budva.  
[<https://ontheworldmap.com/montenegro/city/budva/large-detailed-map-of-budva.html>]

rocks and are covered with shrubs (so called *maquis*). The new town of Budva developed along the shores of a small bay, which in the north ends at the cape, which houses old medieval town itself behind the fortress walls.

The exotic landscape of Budva is due to the specifics of the typical Mediterranean climate with warm summers and mild winters. The city is one of the warmest Mediterranean cities with an average temperature of 8° C in January, 23.9° C in July, an average summer temperature of 23.1° C, and a winter temperature of 9.3° C. Relative humidity is 63 % in summer and 80 % in autumn.

In the case of Budva, it is fair to say that the landscape appeal of this resort with lots of exotic greenery is successfully combined with the historic buildings of the old fortress town. According to legend, the city was founded by the ancient Greek hero Cadmus, here are the remains of the first settlements of the 5th century BC, there were ancient Greek and Roman civilizations, in the Middle Ages it was ruled by Doclean kings, Serbian and Zetan feudal lords. From 1420 to 1797 the town was ruled by the Venetians, it was called Budua and belonged to the so-called Venetian Albania. It is to this Venetian period belongs the main building of the old town behind the fortress walls, which protected from constant Turkish attacks. Venetian rule affected the fact that until the 19th century the inhabitants spoke the Venetian dialect.

As of the 19th century, the population of Budva was 1,000. In 1815–1918 the so-called Austrian period in the history of Budva lasted, as the city belonged first to the Austrian (1815–1867), and in 1867–1918 – to the





Fig. 11. Palm trees and exotic plants in the central part of the Old Town [photo by O. Ivashko, 2021]



Fig. 12. The scheme of planning the territory of the hotel complex "Slovenska plaža" [material of the advertising hotel booklet, 2021]

Austro-Hungarian Empire. After World War I, Budva became part of the Kingdom of Slovenes, Croats, and Serbs (since 1929 – the Kingdom of Yugoslavia), from the 1930s began to develop as a resort, in 1941 occupied by Italy, the city was liberated in 1944 and from 1970-s years acquires the fame of an international resort. A strong earthquake in 1979 destroyed much of the historic building of the Old Town, but it was all restored [12].

Today the main tourist attraction of Budva is the sea coast with numerous beaches and exotic greenery on the background of the authentic Old Town in the character of Venetian and Mediterranean architecture, where within the fortress walls among the medieval buildings the Cathedral of St. John the Baptist (7th century with later reconstructions), the Church of St. Mary ("In Punta") (840), the Church of St. Sava (1141) with frescoes of the 12th century, the Church of the Holy Trinity (1804) preserved.

It is also worth defining the technique of landscaping, which is used exclusively in the conditions of closed medieval cities with narrow streets. Both in the Old Town of Budva and in the historical district of Herceg New, small squares are landscaped mainly with

local plants, and exotic species, such as palm trees, play the role of accents in landscaping (Fig. 11).

Among beaches, either coarse-grained or pebbly, the following ones should be mentioned: the beaches of Mogren near the Old Town at the foot of high cliffs, the city beach of Pizana near the walls of the Old Town and the Repeno tower, the Slovenska plaža (Slav beach) east of the Old Town, known since 1938, Guvance beach on the way from Budva to Bečići near the rocky cape of the Zavala peninsula, Jaz with the river Drenovstica, bordered by the mountains Grbalj and Straža, Lučice, Tršteno, Ploče.

Near the territory of the Old Town there is a park (one of the two parks in Budva), and its territory continues smoothly with smaller and more scattered green areas and beyond, until the end of the coastal part of the town.

The territory of the town is actually divided into two parts: the coast is adjacent to the actual tourist area with restaurants, berths for yachts, boats and boats, hotels, sports fields and entertainment areas, this area is planted with exotic plants. Mediteranska and Novi Bulevar streets separate the tourist area from the area where the residents live (this area has much less greenery). Even more separation of the residential part from the tourist part is felt behind Jadranska Magistrala street, the terrain is gradually becoming steeper, houses are private, small, and vegetation is changing: exotic palm trees and oleanders of the tourist area replace local olives, pomegranates, laurels, pergolas, wrapped kiwis, fruit trees.

In the tourist area there are many fruit-bearing palms such as *Phoenix canariensis* (family *Arecaceae*), which have become a traditional greenery of the tourist area. Homeland of this palm is the Canary Islands, it is common in the subtropics, now grows from France to Chile, especially popular for landscaping in Spain, Portugal, Argentina, Italy, Croatia, Greece, Turkey, northern Iran, southern and western France, in California and Florida in the United States, Rio Grande do Sul in southern Brazil, Uruguay, Australia, New Zealand and South Africa, it grows on the Black Sea coast of the Caucasus, on the southern coast of Crimea and in the south of Azerbaijan and Turkmenistan. In some countries, palm trees are growing so actively that they have become an aggressive weed tree (in New Zealand).

The palm is a massive tree 10 – 40 metres high, the diameter of its trunk reaches 1 metre with greenish-gray compound short-petiolate leaves 4 – 6 m long with 80 – 100 leaves on the sides of the main rachis, with clusters of orange, oval, with seeds inside. Unbranched straight trunk is quite strong. On its surface there are many stumps, which are the remains of dead and fallen leaves. The leaves are only on the top of the palm tree, and there are from 150 to 200 pieces. The peculiarity of flowering is that the flowers are divided into female (yellow-orange) and male (cream). They are collected in fairly



Fig. 13. Landscape design of the internal green area of the hotel complex "Slovenska plaža" [photo by O. Ivashko, 2021]

large branched axillary inflorescences, while female inflorescences can reach 200 centimetres in length.

The current state of the Budva embankment has been received since 2020, when the reconstruction of the city embankment "Slovenska plaža" began. The first stage included repair works near the post office and Plaza shopping centre, earthworks, construction of a pedestrian bridge over the Svačić stream. Incom from Podgorica was appointed as the contractor. The second stage envisaged landscaping of the territory with 400 varieties of Mediterranean plants and installation of lighting.

In 2020, the Montenegrin authorities announced an international competition to develop an architectural concept for a new look of the Budva embankment from the Old Town to the village of Rafailovići with the arrangement of lawns, planted trees and plants, installation of modern lighting. At the same time, all plans were changed due to the pandemic, even now part of the territory on both sides of the embankment is surrounded by a fence, several high-rise hotel buildings have not been completed.

The largest green area is the territory of the hotel Slovenska Plaža. The large area of the hotel complex is divided into two parts – the entrance service, where tourists come to settle, there is a parking lot and a street of shops with souvenirs, tourist offices, medical centre and parking for guests (Fig.12). An asphalt road and a covered promenade lead to the actual tourist area. Both areas are separated by large green lawns with palm trees. A narrow canal of the mountain river separates the actual zone of villas. The entire Slovenska Plaža includes 10 villas, and the area itself resembles a typical

Greek street. Each villa has its own name and landscaping with appropriate trees and plants – Villa Čempresa, Mirta, Magnolia, Kana, Palma, Kamelija, Limuna, Oleandra, Maslina, Ružmarina.

To create a more Mediterranean impression, the main street is called Korzo, there is a small square in front of the restaurant, where in the evening people gather to listen to national songs live. There are also small shops and beauty salons around the square. Each villa has an outdoor terrace on the courtyard side and its own covered courtyard with a fountain and seating areas.

Villa Čempresa is the entrance gate to the tourist area, so it consists of two volumes connected by arches. This area is planted with cypresses. From here you enter the system of Mediterranean buildings – three-storey villas with white walls and blue shutters, located on both sides of the main street Corso. Pergolas are wrapped in grapes, oleanders and palm trees in tubs, laurels and olives, tropical bushes grow everywhere. Bypassing the area of villas in the direction of the street to the pools, you find yourself in an open space with single palm trees, cypresses, magnolias and bright flower beds (Fig. 13).

The landscape design concept of the hotel complex "Slovenska plaža" provides for the creation of an isolated internal environment, a kind of "city within a city", where interesting but completely artificial sceneries are created due to the extensive use of exotic plants (for example, a combination of grass lawn and palm trees). This landscaping technique is typical for large hotel complexes located on flat terrain, where there is no opportunity to attract tourists with an interesting view from the window of a hotel room or restaurant terrace.

However, famous green parks are not only in Budva. The tourist attraction is an 18-hectare botanical garden with exotic plants from Asia, Africa and America near Sveti Stefan Island and Queen's Beach.

## Conclusion

A comparison of the landscaping principles of two resort areas – the Bay of Kotor (Herceg Novi and Tivat) and the Adriatic coast (Budva) showed their difference: landscaping of Herceg Novi is more suitable for local vegetation, and therefore more modest, dominated by conifers – southern pine, thuja, cypress. At the same time, compositions of agaves, fan-shaped palms, magnolias, and oleanders are planted directly in tourist areas.

Instead, in the case of Budva, we can talk about the emphasized "man-made" landscaping in the main tourist areas, which are the Slovenska Plaža complex, the waterfront and the town park.

The specifics of the climate of different regions of Montenegro led to the spread of certain species of plants and trees. The closer to the Adriatic coast, the more frequent use of landscaping with palm trees, white, yellow and pink oleanders, magnolias and various



species of cacti. Kiwis are common, which cover most of the pergolas of private estates in Budva, grapes, peaches, oranges and tangerines, in the mountains above Budva wild pomegranates grow, in the estates – cultivars.

The main factor influencing the choice of landscaping techniques was the nature of the terrain. In the towns of the Bay of Kotor, where there was a relatively flat area between the mountains and the sea, as in Tivat, landscaping techniques are very similar to towns on the Adriatic coast, such as Budva.

The analysis of the landscape design of Herceg Novi, Tivat and Budva made it possible to determine the characteristic landscaping techniques.

The first technique, the so-called "memorial landscaping", is the surrounding of modest human-scale monuments to prominent persons with plant compositions, where exotic plants often play the role of accents.

The second technique for conditions of complex terrain and fairly dense buildings, especially in historical cities, is the use of landscaping as a kind of "green frame" or background for numerous architectural monuments, using local plants as a background and exotic plants as accents.

The third technique involves terrace gardening, when terraces are arranged on the slope, separated by retaining walls, and the stonework of these walls is used as a background for individual exotic plants or as a support for twisted liana-like plants. In particular, this technique is often used on the territory of hotel complexes located on difficult terrain.

The fourth method can be conventionally called the method of "artificial improvement of the landscape", when due to the extensive use of exotic plants, interesting but completely unnatural species pictures are created (for example, a combination of grass lawn and palm trees). It is used in large hotel complexes and city parks located on relatively flat terrain.

The fifth technique, which is used for greening the territories of hotel complexes both on complex terrain and on the plain, is the technique of the so-called "borrowed landscape" - strengthening the properties of landscaped spaces with views of water spaces and historical buildings.

The sixth technique used for greening hotels of a large area on the outskirts of cities is the transformation of

natural forest areas into a forest park with a predominance of local coniferous tree species (with the expectation of a therapeutic effect).

The seventh technique is the reproduction of landscape design samples characteristic of a certain area in our time (for example, the landscape design of hotel complexes can imitate monastery gardens, and the landscaping of the inner courtyard of a residential complex can reproduce the landscaping techniques characteristic of small areas in the historical part of the coastal towns of the Bay of Kotor).

If in the town as a whole, the system of organizing green spaces is rather rigidly connected with natural and urban planning conditions, then when organizing the landscape design of the territory of large hotel complexes, there is no such rigid conditioning.

In the landscape design of the territory of large hotel complexes, two approaches can be traced in general.

The first involves the creation of a kind of "city within a city", a somewhat theatrical environment, where unusual combinations of exotic and local plants are widely used. As a rule, this approach is used when, due to natural conditions (or the volume-planning solution of the buildings of the complex), it is not possible to provide an interesting view from the windows of the rooms (to the sea, mountains or historical buildings). Such an approach can be conventionally called "closed". It is especially characteristic of large hotel complexes in such Mediterranean countries as Turkey (especially the Antalya region) and Egypt.

The second approach in landscape design can be conventionally called "open". It is more often used when placing a hotel complex on the terrain, in cities with historical buildings and architectural monuments. Here, attractiveness is achieved due to the organization of interesting views from the windows of rooms, terraces of restaurants, etc. The basis of landscaping is local plants (sometimes traditions are consciously followed, for example, of monastery gardens), and exotic plants play only the role of individual accents.

Both approaches are aimed at creating a visually rich and interesting environment that differs significantly from the tourist's everyday surroundings.

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#### AUTHORS:

**Małgorzata Hryniewicz**, Phd, architect, specialist in architectural history and historic preservation, Cracow University of Technology, Faculty of Architecture, Podchorążych St. no 1, 30-084 Cracow, email: [malgorzata.hryniewicz@pk.edu.pl](mailto:malgorzata.hryniewicz@pk.edu.pl)

**Andrii Dmytrenko**. An urbanist and landscape architect. Candidate of Technical Sciences (Ph.D.), Associate Professor. National University "Yuri Kondratyuk Poltava Polytechnic", Educational and Scientific Institute of Construction, Architecture and Land Management, 24 Pershotravnevyi Avenue, Poltava, Ukraine.

E-mail: [ab.Dmytrenko\\_AU@nupp.edu.ua](mailto:ab.Dmytrenko_AU@nupp.edu.ua)

**Kashchenko Oleksandr**, Doctor of science, Dean of Architectural faculty KNUCA. Area of interest: architectural environment design, landscape design, biodesign, art

E-mail: [kashchenko.ov@knuba.edu.ua](mailto:kashchenko.ov@knuba.edu.ua)

**Yuliia Tretiak**, Doctor of Architecture, Head of the Department of Design KNUCA, area of interest: architectural environment design, landscape design, architecture of buildings and structures, urban design.

E-mail: [tretiak.iuv@knuba.edu.ua](mailto:tretiak.iuv@knuba.edu.ua)

**Michał Krupa**, Associate Professor, architect, specialist in urban design, Cracow University of Technology, Faculty of Architecture, Podchorążych St. no. 1, 30-084 Cracow, Poland.

E-mail: [michal.krupa@pk.edu.pl](mailto:michal.krupa@pk.edu.pl)

**Hanna Yablonska**, dr. Professor of the Department of Information Technologies in Architecture, Kyiv National University of Construction and Architecture, 31, Povitroflotskyi Avenue, Kyiv, Ukraine.

E-mail: [yablonskaya.a@gmail.com](mailto:yablonskaya.a@gmail.com)

**Olena Yaremchuk**, Ph.D.(Art Science), Associate Professor of the Department of Fine Arts and Architectural Graphics KNUCA, area of interest: study of the laws of composition in fine, decorative and applied arts and design.

E-mail: [iaremchuk.om@knuba.edu.ua](mailto:iaremchuk.om@knuba.edu.ua)

**Kopsavilkums.** Rakstā analizētas divu dažādu Melnkalnes apakšzonu – Adrijas jūras piekrastes ziemeļu daļas un Kotoras līča – ainavu dizaina iezīmes. Raksta mērķis ir apzināt galvenos dabas un pilsētplānošanas faktoros, kas nosaka apzaļumošanas raksturu Melnkalnes ziemeļu piekrastes reģiona kūrortpilsētās, raksturīgos apzaļumošanas paņēmienus un pamata pieejas atpūtas objektu teritorijas ainavu dizainā. Tika izmantotas ģeotelpiskās analīzes, vēsturiskās analīzes un salīdzinošās analīzes metodes, un tika pierādīta reljefa noteicošā loma atsevišķu kūrortpilsētu apzaļumošanas metožu pārsvarā. Hercegnovi un Budvas kūrortpilsētu apzaļumošanas paņēmieni salīdzinājums parādīja lielāku atbilstību Herceg Novi vietējai florai un eksotiskāku ainavu veidošanu. Ir noteiktas septiņas raksturīgas ainavu dizaina metodes Melnkalnes ziemeļu piekrastes reģiona kūrortpilsētās. Atpūtas objektu teritorijas ainavu noformēšanā ir identificētas divas galvenās pieejas: "slēgtā", kad pēc principa "pilsēta pilsētā" tiek veidota slēgta atpūtas objekta vide, plaši izmantojot stilizācijas paņēmienus un eksotiskus augus un "atvērta", kad skatos uz pievilcīgām dabas ainavām vai vēsturiskām ēkām, ainavu veidošanā galvenokārt tiek izmantotas vietējās augu sugas.