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Sandy Beaches Changing in Line with Urbanization Visual Quality Values

Makbulenur Onur
Landscape Architecture, Karadeniz Technical University, Turkey

Demet Ulku Gulpinar Sekban
Landscape Architecture, Karadeniz Technical University, Turkey

ABSTRACT

The coasts are the intersection area of land and sea ecosystems, where people are always interested and benefit from many activities. However, unplanned developments as a result of rapid population growth and migration in these regions are destroying the living environments necessary for all living things. Beaches are important coastal ecosystems. At the same time, it offers people many recreational opportunities such as entertainment and rest. They are the city's attractions. Increasing population, industrialization and urbanization endanger coastal ecosystems. Within the scope of this study, it was discussed how the landscape perception of the users changed with the construction of sandy beaches. It has been questioned which sandy beaches people prefer and why. The study was carried out in Trabzon, a coastal province located in the eastern Black Sea Region of Turkey. Turkey is a country that hosts different geomorphological units and has intense natural and human interaction. The most used beach in Trabzon has been researched. SPPS and AHP methods were used as statistical methods within the scope of the study. As a result of the study, it has been revealed that natural sandy beaches are more important in terms of biodiversity, in terms of visual quality. At the same time, it is seen that people want to go to all three alternatives at the same rate. This means that people prefer sandy beaches no matter what. At the same time, on the sandy beaches where urbanization is intense, the results and biodiversity are very low in terms of naturalness parameters.

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Corresponding Author Contact:

mnurbekar@gmail.com

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1. Introduction

An individual takes his characteristics of being an individual from his experience and knowledge throughout his life. These experiences and information obtained through visual perception play an important role in renewing the perceptions that make up it. Various illusions during these perceptions and the individual's collection of information from the environment suitable for their purposes are also included in the basic features of visual perception. Visual Perception is a phenomenon that varies according to the individual (Goler, 2009); It is expressed with concepts such as visuality, beauty, satisfaction, and aesthetics (Daniel, 2001; Kiper et al. 2017). For this reason, "visual perception" is included as a variable in many studies such as space use planning and resource management decision-making-strategy development and management stages (Clay and Daniel, 2000; Tüfekçioglu Kugu, 2008; Kiper, Korkut, Ustun Topal 2017, Çaglayan Kaptanoglu, 2008; Jahany et al 2012, Huang 2014, Acar et al 2018).

The visual impact of an area has a significant impact on the perception of its surroundings, good or bad, and whether users enjoy it or not. (Özgeris 2014). "Visibility" occurs with the emotional and logical expressions that the sum of the images formed in our eyes creates in the sensors (Elinc 2011). Visual landscape quality is a visual perception process that includes how the environment is perceived, interpreted and evaluated by humans. The phenomenon that occurs at the end of this process is called visual landscape quality. It is the joint product of landscape features, which consists of the interaction of the observer's perceptual and emotional psychological processes (Tugce, 2021). The important point about visual quality; determining the natural quality and making this planning process in connection with natural landscapes (Asur and Alphan 2018).

One of the most important parts of the planning and design process is visual perception. Visual perception is the result of concrete research in psychology, logic, and so on. This process encompasses a complex process. In this process, it is known that color, contrast and many similar perceptions play important roles in the processing of visual data. Visual perception begins when the eye receives incoming visual information in the form of light waves. (O'Connor, 2015).

Visual perception in a design is made by the designer. The designer should use this perception-orientation process consciously. In this process, necessary design formulas are used. In order to establish the correct construction of visual perception, it is necessary to use the basic rules and principles of design in place and to construct the perception correctly (Begum, 2021).

Visual landscape quality interacts with the perceptual and emotional psychological processes of the observer. How this effect of the environment on human behavior is perceived, how it is interpreted and how it is evaluated is defined as the "visual landscape quality" formed as a result of the visual perception process. Visual landscape quality can be defined as "the relative aesthetic perfection of a landscape" and can be measured through the appreciation of the observer (Daniel 2001; Kalın 2004; De La Fuente vd. 2006; Guneroglu 2017). Therefore, visual perception increases the "liking or acceptability" of a design or landscape.

In the visual perception process, individuals primarily acquire two-dimensional superficial information about the concept. In this detection, width and heights are perceived as priority. Then, a detailed perception process about the concept begins (Eristi vd. 2013, Yagmur, 2014). In this process, as the quality values of the landscape increase, it becomes easier for individuals to adopt the organization of that design. The harmony of dimensions, forms and positions provides individuals with many adjectives such as "beautiful design, original design and useful design.

Coasts affect people's quality of life closely (Guneroglu et al 2013; Dihkan et al. 2015; Bekci, 2021). Today, to reveal the quality of visual landscape units by evaluating; In the management of visual resources, it is required for preserving, repair, strengthening, concealment decision-making and development stages during space use planning and design studies (Asur, Alphan 2018). The purpose of visual landscape analysis is to determine the degree of sensitivity to possible changes by providing information about its current visual characteristics and situation. This information will guide the decision making and strategy development phases of land use planning and resource management studies (Çakcı 2007). "Visual landscape quality is the collective product of certain (visible) landscape features that interact with the perceptual and emotional psychological processes of the observer. He defines how this effect of the environment, which transforms into human behavior, is perceived, how it is interpreted and how it is evaluated, as the "visual landscape quality" formed as a result of the visual perception process. Visual landscape quality can also be defined as "the relative aesthetic perfection of a landscape" and can be measured through the appreciation of the observer." (Guneroglu et al 2016, Daniel 2001; Kalın 2004; Asur 2019; Özgeris and Karahan 2015; Gültürk and Sisman 2015, Güneroglu, 2017).

All over the world, sandy beaches are regions with special ecosystems (Guneroglu et al 2015, McLachlan and Brown 2006). They have both economic and tourist-attracting features. This means a larger user base than any other coastal ecosystem (Maguire et al. 2011; Schlacher and Thompson 2012). Sandy beaches harbor a rich and dense fauna and flora (McLachlan and Brown 2006; Harris et al. 2014). To summarize, designing sandy beaches is synonymous with "urbanization" (Felix et al 2016.

2. Research Aim

In line with increasing urbanization, many things in the city are differentiated and deteriorated. Coasts are seriously affected by this deterioration. Changing coastal uses and sandy beaches are changing both aesthetically and ecologically. Within the scope of this study, 3 sandy beaches in the same province were examined. On the basis of the study, it has been revealed how the sandy beaches, which have changed in line with urbanization, affect the visual quality values and usage preferences.

3. Material and Method

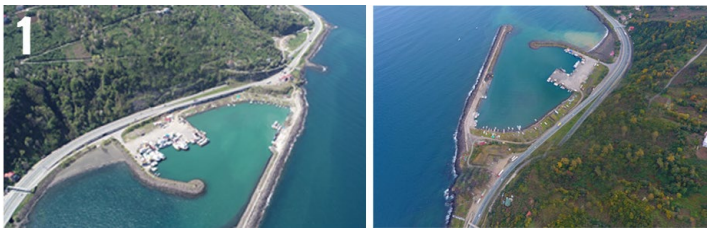
3.1. Material

We analyzed natural sandy beach, semiurbanized sandy beache and urbanized sandy beach: 3 in Turkey-Trabzon (Figure 1). All sandy beaches were located within the urban area, but they exhibited different levels of urbanization and some were more accessible than others. In total, 3 beach samples were examined.

Trabzon, which receives abundant rainfall, has a lush vegetation. Forests can be found up to an altitude of 2300 m. There are large tea gardens in the east of the province. 45% of the provincial lands are forests, 33% are cultivated-planted areas and the rest consists of meadows and pastures. The summers are cool and the winters are warm, and all seasons are rainy. As you reach the mountainous region to the south, the climate becomes

harsher. Precipitation, which is seen as rain on the coast, turns into snow in high places (URL-1). It is among the semi-urbanized beach group; Yoroz beach is 35 km from the city center and 31 km from the Surmene Camburnu plan. Sana beach, which is between the urbanized central beaches, is 10 km away.

A. Natural Beach



B. Semi-urbanized Beach (Yoroz Beach and Surmene Camburnu Beach)

C. Urbanized Central Beach (Yalıncak Beach)

Figure 1. Study area

3.1. Method

The method was carried out in 3 stages. These stages are; field and observation study, establishment of criteria and statistical method (SPSS and AHP). More than one method was used for the purpose of the study. In the first stage, the area constituting the material of the study was visited and an observation study was made. Aerial photographs of the studies were obtained. Statistical studies were first started with SPSS. Factor analysis and Anova test were performed in SPSS. Then the AHP method was used. AHP; It is a method that allows individuals or groups to make decisions in a complex situation. The survey study was carried out with 55 experts. The experts consist of the landscape architect, interior architect group. Drone images were obtained in order to bring the images to a standard view for the survey. It is presented to experts in the same standard view in all three alternatives (natural beach, urbanized beach, semi-urbanized beach). For the analysis, a hierarchy of criteria was created in the first stage. This is called decision modeling (Figure 2). Decision modeling was created by following the steps below (Saaty, 2010, Baby 2013; Srdjevic et al 2013; Leal 2020; Onur, Koc Altuntas 2022).

1. The main purpose of the decision-making process is determined
2. The purpose is written at the top of the modeling.
3. At the second level of the matrix, alternatives that meet the primary goal are identified.
4. Alternatives were formed in 3 groups; Natural Beach, Semi-urbanized Beach, Urbanized Central Beach.

5. At the third level of the matrix, 22 criteria are defined that define each criterion and alternative. Quality parameters have been prepared objectively by evaluating previous studies (Clay ve Smidt, 2004; Müderrisoğlu ve Eroğlu, 2006; Acar ve Sakıcı, 2008; Acar ve Güneroğlu, 2009, Güneroglu 2017).

After these steps were carried out and the matrix was created, another stage was started. This is the stage where expert opinions are included. The comparison of the criteria is done both among themselves and among all alternatives for which each criteria is determined (Dagdeviren and Eren, 2001). Thus, a transition to the decision stage is achieved in producing solutions. Shows the (weighted) comparison between these criteria. Consult experts (Figure.2.) for comparison between criteria.

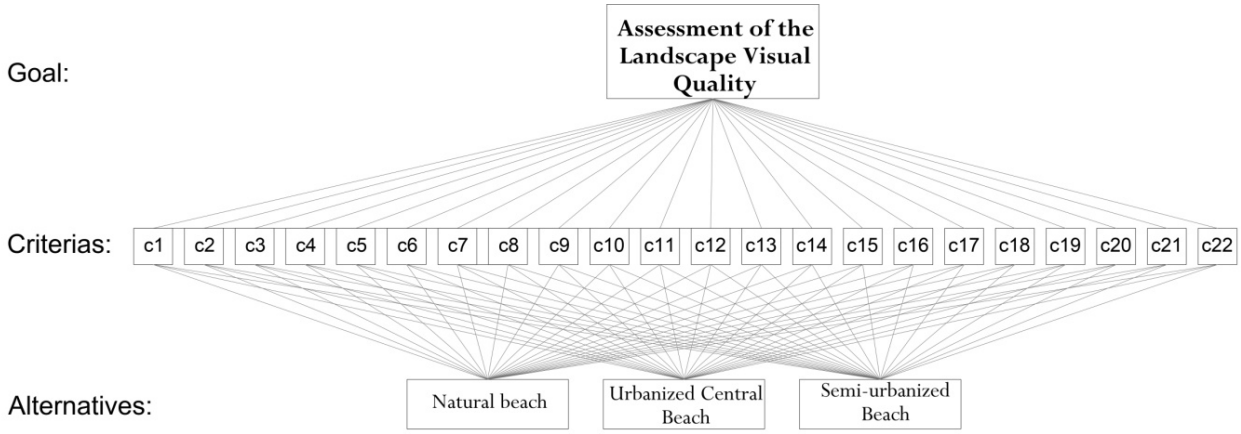


Figure.2: Hierarchy of spatial quality criteria for AHP proces

The final step in the AHP process is to calculate their relative weights for the criteria. The relative weights of the criteria with respect to each other were obtained. The importance or weight of each criterion is different, and therefore, firstly, a numerical scale developed by Saaty (2012) was used. This scale made it possible to establish the relative priority of each criterion over the others through pairwise comparisons. Consistency ratio was calculated to determine the consistency of pairwise comparisons. Since it was 0.10 and below as a result of the calculations, it was accepted that it showed sufficient consistency (Kuruüzüm and Atsan, 2001). As a result of the AHP, it was determined which criteria had more weight under which alternative and groups were formed.

3. Findings

3.1. Assessment of the Landscape Visual Quality via SPSS

First of all, Cronbach's alpha value was found to determine whether the criteria were reliable. Cronbach's alpha value was found to be 0.8. This value; It ranges from $.9 > x \geq .8$ on the Cronbach's alpha scale. Therefore, the reliability level of the criteria within the scope of the study is quite good. After determining that the criteria are reliable, in order to make the variables in the criteria a small number of significant and independent factors; "factor analysis" was carried out. “Analysis of variance (ANOVA)” was conducted to check whether there was a significant difference according to the “visual quality values of sandy beaches” criteria.

In the evaluation phase, in order to obtain the findings of the principal components analysis and criteria, 3 components were identified, which constitute approximately 95% of the total data variances, as a result of factor analysis to the data set containing 22 criteria. Factor loading and common variance values according to factor analysis results are given in Table 1.

As a result of the analysis, it was determined that the factor loads ranged from 0.998 to -.903. As a result of the analysis, it has been determined that the 1st factor load, which constitutes 68.650% of the total variance, has the parameters of "harmonious", "integrity", "privacy", "recreational", "protected". It was determined that the 2nd factor load, which constituted 21,523% of the total variances, was "rememberable", "beautiful", "authentic", "must be developed", "I want to go" parameters. As seen in this analysis, the 1st factor load has a higher load than the other factors. Therefore, it has been determined that the parameters of “harmonious”, “integrity”, “privacy”, “recreational” and “protected” are important factors in the evaluation of the visual quality of the coasts (Table 1).

Table 1. Factor analysis

	Component			Extraction Sums of Squared Loadings
	1	2	3	% of Variance
Beautiful	,817	,405	,090	68,650
Original	,896	,349	,228	21,523
Influential	,933	,183	,287	5,722
Perceptible	,933	,183	,287	
Legible	,944	,261	,089	
Inviting	,896	,349	,228	
Continuity	,148	,431	,771	
Memorable	,040	,712	,613	
Comfortable	,727	,002	,666	
Relaxing	,390	,317	,856	

Accessible	,911	,305	,079
Natural	,913	,392	,005
Compatible	,998	,026	,040
Integrity	,989	,071	,064
Variation	,933	,183	,287
Privacy	,997	,017	,011
Sufficient	,933	,183	,287
Recreational	,997	,017	,011
Protected	,997	,017	,011
must be renewed	,381	,863	,184
should be developed	,167	,958	,016
ı wanted to go	-,012	,903	,421

The parameters that reveal the visual landscape quality between the 3 selected areas within the scope of the study were examined according to the results of the ANOVA test. natural beaches; "Beautiful" (4.64), "impressive" (4.30), "perceptible" (3.24), "Perceptible" (4.55), "Relaxing" (4.46), "Harmonious" (4.44), "Unity" (4.55), " Continuity" (4.45), "Safe" (4.40), "Careful" (4.71), "Available" (4.58), "Memorable" (4.67), "Recreational" (4.83), "Protected" (4.60), "Diversity" " (4.26), "Line" (4.33), "Color" (4.20), "Form" (4.54), "Texture" (4.31), "Like" (4.63) parameters got high scores ($p<0.01$). In Urbanized Central Beach, on the other hand, it received high scores in the parameters of "integrity, I need to be renewed and I wanted to go" ($p<0.01$) (Table 2). Finally, Semi-urbanized Beach has the highest rates; integrity, needs to be developed and I wanted to go parameters.

Table 2. Anova Test

Mean	Std. Deviation	95% Confidence Interval for Mean		
		Lower Bound		Upper Bound
Beautiful	**4,6415**	,87493	,08498	4,4730
	1,5905	,84005	,08198	1,4279
	2,4286	1,24697	,12169	2,1873
	2,8924	1,63333	,09188	2,7116
Original	4,1698	1,44401	,14025	3,8917
	1,7810	,75931	,07410	1,6340
	2,3429	1,29962	,12683	2,0913
	2,7690	1,57776	,08876	2,5944
Influential	**4,3019**	1,27369	,12371	4,0566
	1,8667	1,07477	,10489	1,6587
	2,2571	1,35184	,13193	1,9955
	2,8133	1,63492	,09197	2,6323
Perceptible	**3,2453**	1,65507	2,9265	3,5640
	2,9333	,99292	2,7412	3,1255
	2,2571	1,35184	1,9955	2,5188
	2,8133	1,41868	2,6563	2,9703
Legible	**4,1698**	,90996	3,9946	4,3451
	2,9810	,97054	2,7931	3,1688
	2,2095	1,08038	2,0004	2,4186
	3,1234	1,27514	2,9823	3,2646
Inviting	**3,5849**	1,28632	3,3372	3,8326
	1,7524	,91757	1,5748	1,9300
	2,3429	1,29962	2,0913	2,5944
	2,5633	1,40491	2,4078	2,7188
Continuity	**3,3774**	1,57633	3,0738	3,6809
	3,1429	,84840	2,9787	3,3070
	3,2476	,87465	3,0784	3,4169
	3,2563	1,15227	3,1288	3,3839
Memorable	**3,4717**	1,64002	3,1558	3,7875
	3,4667	,78538	3,3147	3,6186
	3,1905	1,10153	2,9773	3,4036
	3,3766	1,23209	3,2402	3,5130
Comfortable	**2,7736**	1,74183	2,4381	3,1090

	1,7619	,96600	1,5750	1,9488
	2,6000	1,18920	2,3698	2,8302
	2,3797	1,40795	2,2239	2,5356
Relaxing	3,6792	1,19958	3,4482	3,9103
	1,6762	,64294	1,5518	1,8006
	2,1429	1,03244	1,9431	2,3427
	2,5032	1,30566	2,3587	2,6477
Accessible	3,1321	1,37432	2,8770	3,3871
	2,0000	1,57505	1,6952	2,3048
	3,1810	1,78013	2,8365	3,5255
	2,7722	1,65769	2,5887	2,9556
Natural	4,5094	,90759	4,3346	4,6842
	1,2667	,62429	1,1459	1,3875
	2,3619	1,22572	2,1247	2,5991
	2,7184	1,65033	2,5357	2,9010
Compatible	4,1132	1,04490	3,9120	4,3144
	2,4667	1,36626	2,2023	2,7311
	2,9238	1,86411	2,5631	3,2846
	3,1709	1,61616	2,9920	3,3498
Integrity	3,9811	1,11254	3,7669	4,1954
	3,2952	,96001	3,1095	3,4810
	2,9429	1,97984	2,5597	3,3260
	3,4082	1,48253	3,2441	3,5723
Variation	3,5094	1,65181	3,1913	3,8276
	1,7714	1,15407	1,5481	1,9948
	2,1619	1,17771	1,9340	2,3898
	2,4842	1,53780	2,3140	2,6544
Privacy	3,4528	1,79487	3,1072	3,7985
	1,3048	,46251	1,2153	1,3943
	1,8842	,97700	1,6852	2,0832
	2,2288	1,52572	2,0571	2,4004
Sufficient	3,5094	1,86826	3,1496	3,8692
	1,5333	,66603	1,4044	1,6622
	2,2571	1,35184	1,9955	2,5188
	2,4367	1,60726	2,2588	2,6146
Recreational	3,7736	1,34719	3,5141	4,0330
	1,8571	,97496	1,6685	2,0458
	2,0857	1,11902	1,8692	2,3023
	2,5759	1,43779	2,4168	2,7351
Protected	3,6981	1,80565	3,3504	4,0459
	1,9429	1,02684	1,7441	2,1416
	2,1810	1,30665	1,9281	2,4338
	2,6108	1,61454	2,4321	2,7895
must be renewed	3,5283	1,56879	3,2262	3,8304
	3,9619	1,34396	3,7018	4,2220
	2,7429	1,43466	2,4652	3,0205
	3,4114	1,53325	3,2417	3,5811
should be developed	4,2830	1,16091	4,0594	4,5066
	2,4381	1,55615	2,1369	2,7392
	3,1238	1,08924	2,9130	3,3346
	3,2848	1,49110	3,1198	3,4498
ı wanted to go	4,3962	1,31424	4,1431	4,6493
	3,4667	1,04759	3,2639	3,6694
	3,1333	1,15248	2,9103	3,3564
	3,6677	1,28990	3,5250	3,8105

3.2. Assessment of the Landscape Visual Quality via AHP

The AHP method matrix was constructed with a total of 3 alternatives and 22 sub-parameters constituting these alternatives. In total, 22 relative comparison matrixes were created for each parameter. Relative matrices were calculated according to 22 sub criteria (Natural Beach, Semi-urbanized Beach, and Urbanized Central Beach (Table 3). Then, the data were normalized and the result of the normalized matrix was obtained (Figure 3) The survey study was carried out with 55 experts. Experts consist of landscape architects and interior architects. The given matrix was filled by each expert, with 9 being the highest and 1 being the lowest. The scale of values corresponding to the scores is given below.

- 1: Equally ahead
- 3: A little more important
- 5: Quite important
- 7: Very important
- 9: Extremely important
- 2-4-6-8: Intermediate values

Table 3. Matrix of Comparisons according to the characteristics of sandy beaches

1. Beautiful	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
2. Original	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
3. Influential	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
4. Perceptible	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
5. Legible	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
6. Inviting	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
7. Continuity	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
8. Memorable	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
9.Comfortable	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
10.Relaxing	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
11.Accessible	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9

Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
12.Natural	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	3
Semi-urbanized Beach	0,111	0,333	1
13.Compatible	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	3
Semi-urbanized Beach	0,111	0,333	1
14.Integrity	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
15.Variation	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
16.Privacy	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
17.Sufficient	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
18.Recreational	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
19.Protected	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	7
Semi-urbanized Beach	0,111	0,143	1
20.must be renewed	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	3
Semi-urbanized Beach	0,111	0,333	1
21.should be developed	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	9	9
Urbanized Central Beach	0,111	1	3
Semi-urbanized Beach	0,111	0,333	1
22.ı wanted to go	Natural beach	Urbanized Central Beach	Semi-urbanized Beach
Natural beach	1	3	3
Urbanized Central Beach	0,333	1	7
Semi-urbanized Beach	0,333	0,143	1

After the normalized matrix results, the result table in Table 3 was obtained. Comparative matrix results of the alternatives were obtained according to 22 criteria. In this, as in the other steps, a matrix was created using the values in the standard preference table (Table 3, Figure 3). When we look at the final results obtained with the AHP method, natural beach (.824-82%) has the highest weight, followed by semi beach (.120 - 12%) and Urbanized Central Beach (.056 - 5%). When we reach this result, it emphasizes the importance of "Natural beach" in visual quality and prefer ability.

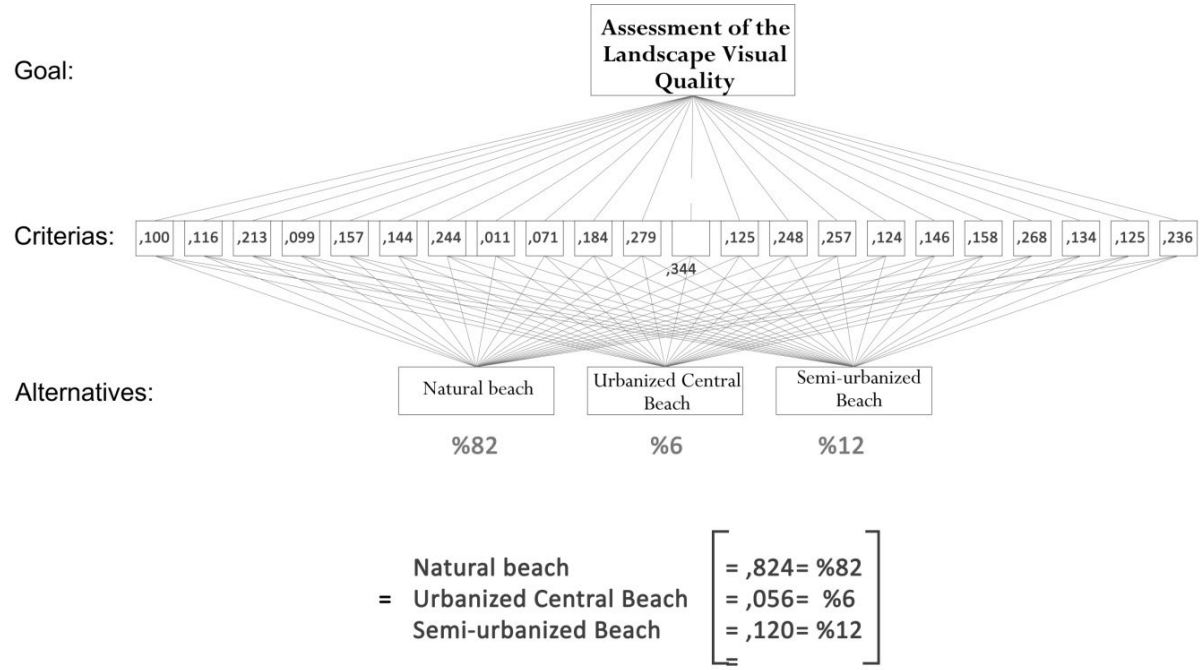


Figure 3. Comparative matrix results

4. Conclusion and Recommendations

In this article, a fuzzy logic-based framework and methodology are presented for evaluating 22 landscape value parameters questioning the visual quality and prefer ability of courtyard sandy beaches. In this context, 3 sandy beaches in Trabzon were examined.

The results obtained within the scope of the study are grouped under two headings as "SPPS" and "results obtained as a result of the AHP method". The grouped results can be listed as follows:

The results obtained as a result of the SPSS method:

• Total SPSS survey was conducted with 106 people.

• The reliability of the statistical results has been tested and the results have been evaluated accordingly.

• The highest factor load was the 1st factor load. The high-resulting parameters of this factor load are respectively "harmonious", "integrity", "privacy", "recreational", "protected" parameters. Therefore, it has been determined that the parameters of "harmonious", "integrity", "privacy", "recreational", "protected" are important factors in the evaluation of the visual quality of the coasts.

• In the results of the ANOVA test, natural beach got the highest result. When I examine the results of the parameters of the alternative; "Beautiful" (4.64), "impressive" (4.30), "perceptible" (3.24), "Perceptible" (4.55), "Relaxing" (4.46), "Harmonious" (4.44), "Unity" (4.55), " Continuity" (4.45), "Safe" (4.40), "Careful" (4.71), "Available" (4.58), "Memorable" (4.67), "Recreational" (4.83), "Protected" (4.60), "Diversity" " (4.26), "Line" (4.33), "Color" (4.20), "Form" (4.54), "Texture" (4.31), "Like" (4.63).

• In Urbanized Central Beach, it received high scores in the parameters of "integrity, I need to be renewed and I wanted to go" ($p<0.01$).

• Semi-urbanized Beach has the highest rates, integrity, parameters to be developed and wanted to go.

The results obtained as a result of the AHP method:

• AHP method was used within the scope of the study as it became more complicated to question the landscape value, visual quality and preferability of sandy beaches.

• As a result of the literature studies, 3 main sandy beach types and 22 sub-criteria have been established.

• In the ranking made relative to the criteria, it was seen that the most weighted criterion was the "Natural beach (52%)" alternative.

• However, it has been stated that the statistical results obtained in the study are reliable, consistent and appropriate.

• Semi-urbanized Beach (12%) has the highest value after Natural beach.

• The lowest rate was seen in the Urbanized Central Beach criterion.

• "Natural (.344)" among the alternatives received the highest alternative value.

• In this alternative, the lowest weight "detectable (,099)" criteria and "beautiful (,100) parameter values are taken.

In the light of the results and findings obtained within the scope of the study

The important point in revealing the visual quality; determination, protection and improvement of natural quality. The best way to do this is to be connected with nature. This is the synthesis of an interdisciplinary study. It is seen that sandy

beaches change shape depending on human needs, but turn into harmful uses for different benefits.

In the planning studies of sandy beaches, revealing the visual quality or determining the aesthetic value is very important to increase the landscape quality. Landscape quality reveals whether sandy beaches are different or better than others in the planning process. In other words, in this design period; it can be said that it is the feature that makes an area different from other areas close to it. It is the more prominent and protected state of the landscape parts, which are the distinctive features of sandy beaches.

• In both statistics, the landscape value of the natural ones of the sandy beaches was higher. However, in terms of accessibility, Semi-urbanized Beach and Urbanized Central Beach are higher. For this reason, the interventions to be made on sandy beaches should primarily be to protect the naturalness and ensure that it is accessible. It is predicted that it will be a correct design when it facilitates accessibility and at the same time preserves naturalness.

• "I would like to go to this field" parameters were found to be quite high in all 3 alternatives. It is a rather important conclusion that people want to go to all alternatives. With this result, we can say that sandy beaches are important recreation areas where people want to go.

The change of beaches with urbanization also affects the preferences of users (Table 3).Users expect a harmonious and holistic design approach from sandy beaches. This result is also demonstrated by statistical studies (Table 3, Figure 3).

"Compatibility" is among the results, where beaches are the most important factor for the user. In the studies conducted on the beaches, it is seen that the users attach importance to this parameter.

According to the results, natural beaches are among the most important places for all users who are tired of city noise. Naturalness is the most dominant part of the visual quality of sandy beaches (Figure 3).

Every intervention made for design and recreation is to turn beaches away from naturalness. Each of them has its own paradoxes from positive/negative aspects. Natural beaches are an escape point for everyone with the calmness and silence they offer. They are the most important escape places for people who spend most of their day in urban centers in daily life.

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