



Introducing an integrated evaluation index for recreational beaches in Albania aiming at improvement of assessment and integrated approach

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Keywords

Coastal beaches
Integrated approach
Pollution
Climate changes
Ecological indicators

Abstract

Within last three decades coastal and continental sand beaches of Albania are becoming among the most valuable ecosystems used for outdoor recreation activities. At the current circumstances the incorporation of the values as: parks, relaxed activities are common at beach areas. The main purpose of this survey is to introduce an innovative approach in assessment of the recreational beaches of Albania following the integrated considerations. An integrated index to evaluate recreational sand beaches is using descriptive beach indicators, beach user's perception and indicators of beach economic value. The design of the integrated index is based on best practices and advanced referenced translated into Albanian context. Each of these 74 descriptive records appraises the aptness of the beach for recreational activities using water and sand intensively, in addition to other activities such as sunbathing, walking, swimming, reading, etc.

Introduction

The aim of this paper is to present an integrated index to evaluate recreational sand beaches. Within last three decades coastal and continental sand beaches of Albania are becoming among the most valuable ecosystems used for outdoor recreation activities. Different activities such as walking or practicing water sports, relaxed activities, reading, etc. are common at beach areas [1]. As a natural resource of the coastal zone, sand beaches are perfect laboratories for the implementation of coastal zone management paradigms. The sand beaches are considered multifaceted study objects that can be managed by designing environmental management instruments with an integrated approach, meaning integrating physical, biological, socio cultural and economic values [2]. Coastal beaches play an important role in defining the development of large projects of tourist infrastructure, that yield large economic inflow which benefits both local and international businesses. Nevertheless, and particularly in traditional beach countries, economic values have targeted a unidirectional development, largely dominated by mass tourism [3, 4] which has caused beach development to drift from sustainability [5]. Some environmental impacts reported are pollution, erosion, and landscape loss e the latter essentially being the main motive to start the development itself [4, 6]. Most sand beach evaluations are based on either simple or complex combinations of characteristics for beach classification and recommendations for common management. In the last 10 years, important attempts have been made to evaluate sand beaches to seek beach awards as a promotional tool [7]. Most sand beach evaluations are based on either simple or complex combinations of characteristics for beach classification and recommendations for common management. Beach evaluations are used for international certification [5, 8, 9] and are based on the fulfillment of specific criteria for sand beaches. They are related to water quality, environmental information and education programs, compliance with environmental laws and the presence of safety corps and other services.

For coastal sand beaches of Albania, has not been an evaluation of the beaches using the integrated beach value index (IBVI).

The index will be applied to five coastal beaches in Albania (from Velipoja to Vlora) in order to identify the main factors affecting the integral quality of recreational beaches in different socio-economic status (Figure 1).

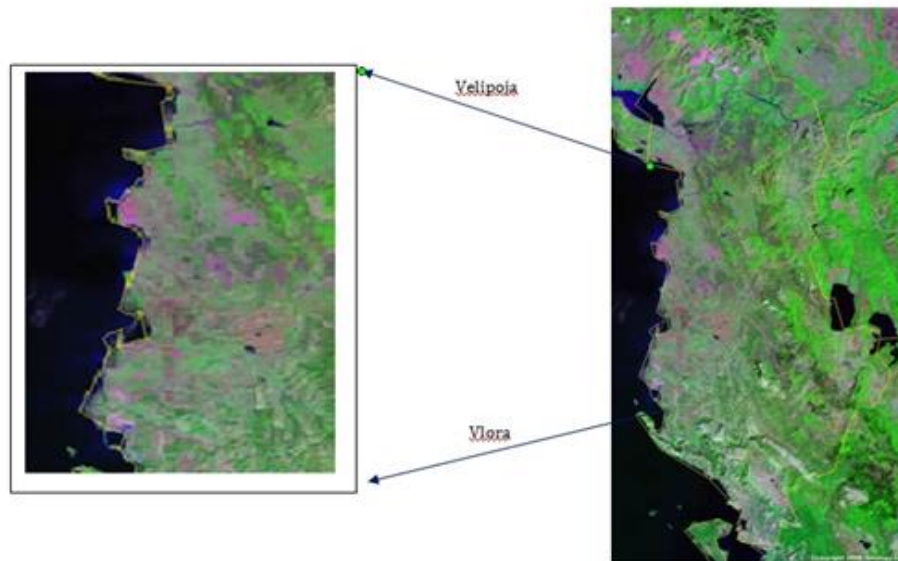


Figure 1. Study area

Material and Method

The integrated index for sand and recreational beach will be used, which includes: descriptive beach indicators, beach user's perception and indicators of beach economic value. Beach Index (BI) describes and evaluates the aptness of the beach for recreational purposes. A descriptive matrix of each urban sandy beach considers 36 ecological indicators of biophysical features (sand colour, texture, water temperature, etc.) and environmental issues (dirty sand and water, bad smells, urban waste, trash, etc.); it also considers 38 socio economic indicators describing infrastructure and services (parking lots, restaurants, safety corps, etc.). Each of these 74 descriptive records appraises the aptness of the beach for recreational activities using water and sand intensively (for instance motorized vehicles both terrestrial and aquatic), in addition to other activities such as sunbathing, walking, swimming, reading, etc.

From the observation, all the features of the beaches and sands will be described and analyzed by qualifying them in three categories, assigning the value 3 if it was favourable, 2 if it was indifferent and 1 if it is unfavourable for recreational activities (BI) [10, 11, 12].

Results and Discussion

In this study, the evaluation will be done in the coastal areas (Velipoja beach, Shëngjin beach, Durrës and Gjiri Lalsit beach, Kavaja beach, Vlora beach) based on the descriptive matrix of the indicators.

This matrix consists of the integration of three descriptive indicators that will provide information related to BI – beach index (expresses the recreational capacity of the beach according to its biophysical and environmental attributes and its infrastructure and services) (Table 3); KI – knowledge index (evaluates opinion and the attitude of the users on the beach) (Table 1); and MI - monetary index (estimates the economic value of the beach in monetary terms) (Table 2). The findings of this study will give us a descriptive picture for quality of recreational beaches in Albania.

Conclusion

Receiving national information will motivate the researchers, consultants and decision makers to design models, suggest sets of variables, select indicators and develop integrated schemes to collect beach data in comparable ways, which will identify the best beaches in Albania.

This integrated approach compares beaches in Albania without taking into considering physiognomy, social or economic differences. Therefore, this evaluation index will be used mainly for sandy beaches, with particular cultural and socio-economic features that would make them seem not very comparable.

In conclusion, this method allows comparing rather different beaches and obtaining results that may be applied in all the beaches of Albania.

Table 1. KI – Knowledge Index

Knowledge Index (KI)					
Index	Category	Question	Answer	Favorability	Classes
<i>Opinion</i>	Beach conditions	Water temperature	Nice/normal pleasant	3	High
			Warm	2	Medium
			Cold	1	Low
	Beach public services	The public services (restrooms showers etc.) of this beach are:	Adequate	3	High
			Inadequate	2	Medium
			Nonexistent	1	Low
<i>Attitude</i>	Recreation habits	You prefer to come to the beach on	Weekends	2	Medium
			Both	3	High
			Weekdays	1	Low

Table 2. MI - Monetary Index

Monetary Index (MI)		
Property tax	Low	1
	Medium	2
	High	3
Real Estate	Low	1
	Medium	2
	High	3
Room rates	Low	1
	Medium	2
	High	3
Rank MI		

Table 3. BI – Beach Index

Beach Index (BI)						Given value for recreational beach aptitude
<i>Biophysical and pollution indicators</i>						
Beach width (m)	<5	5-10	10-30	50-80	>80	1, 2 or 3
Sediment color	Dark	Grey	Brown	Light Gold	White	1, 2 or 3
<u>Morphodynamics</u>	Reflective		Intermediate		Dissipative	1, 2 or 3
Vegetation cover (%)	<10	10-20	20-30	<30	Absent	1, 2 or 3
Dangerous animals	Present				Absent	1, 2 or 3
Trash	Too much	Moderate	Few	None		1, 2 or 3
Sewage outfalls	Present				Absent	1, 2 or 3
<i>Infrastructure and services indicators</i>						
Beach use intensities	Saturated		Moderate		Low	1, 2 or 3
Garbage collectors	None	1-5	6-10	>10		1, 2 or 3
Public restrooms	None	1-3	3-5	>5		1, 2 or 3
Sport facilities	Absent			Present		1, 2 or 3
Car parking distance	>500	200-500	100-200	<100	>500	1, 2 or 3
Favorable (3), indifferent (2), unfavorable (1) attributes for active and passive recreation.						

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