

## EVALUATION OF BEACH QUALITY, CASE STUDY: THE COAST OF BEN ABDELMALEK RAMDANE, ALGERIA

Mohammed BENATTIA\*<sup>ID</sup>

University of Mohamed Boudiaf, M'sila, Urban Techniques Management Institute  
BP 166, M'silla, 28000, Algeria; e-mail: [webmaster.gtu@unv-msila.dz](mailto:webmaster.gtu@unv-msila.dz)

Elhadj BENKHALED<sup>ID</sup>

University of Mohamed Boudiaf, M'sila, Urban Techniques Management Institute  
BP 166, M'silla, 28000, Algeria; e-mail: [webmaster.gtu@unv-msila.dz](mailto:webmaster.gtu@unv-msila.dz)

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**Abstract:** The quality of the beaches is one of the main attractions of coastal tourism. There are five factors in the attractiveness of beaches: the quality of the landscape, sanitary quality, the safety and the quality of the equipment and Planning. We studied four Mediterranean beaches located on the coast of Ben Abdelmalek Ramande, Mostaganem, west of Algiers, and assessed their quality. These beaches are located in areas of tourist expansion. This study aims to improve the tourist attractiveness of coastal tourism and encourage investments in tourist expansion areas. The method we chose in the evaluation is multi-criteria for decision Method, based on (5) attractiveness criteria and forty measurable indicators. After analysis and diagnosis, we concluded that the attractiveness rate of the beaches varies from 58.5 to 69.75%. The most attractive is Clovis beach, which is comfortable; the three beaches are of average quality.

**Key words:** coastal tourism, the beach, evaluation, quality, Abdelmalek Ramdane

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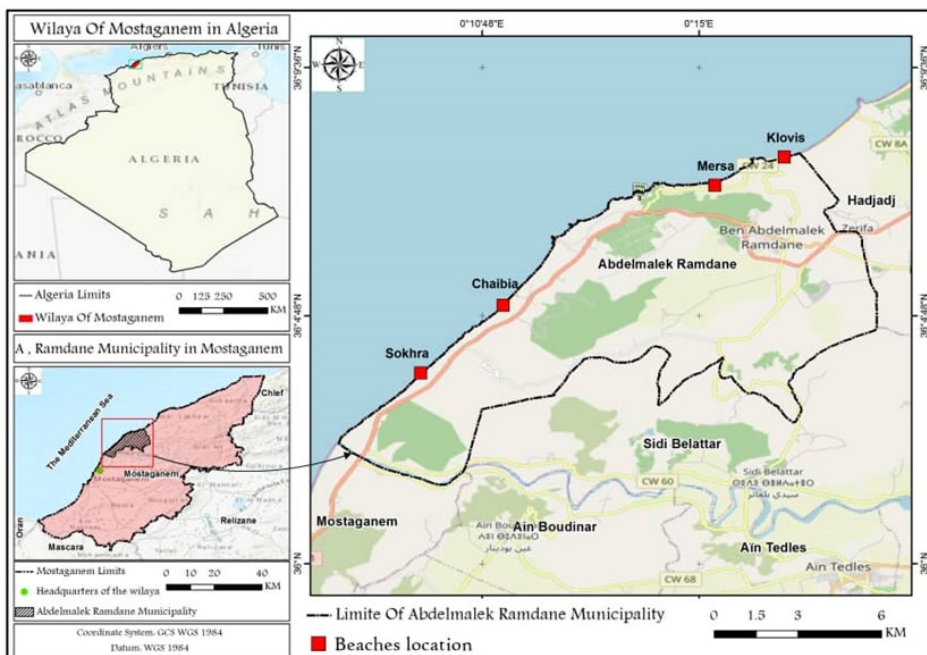
### INTRODUCTION

The issue of beach quality in coastal scientific research is relatively recent, dating back to the 1990s, and has been supported by factors: among them, the development of environmental awareness aimed at reducing the environmental impacts of tourism; and the development of natural studies and landscape studies (Duvat, 2008). The quality of beaches in Algeria has become a major concern since the 2000s. This was a result of the spatial and temporal pressure that generated problems of cleanliness, the provision of potable water in sufficient quantity, and the movement of cars on the cornice roads, without forgetting the problems of accommodation and entertainment, which led to the emergence of Law No. 03-02 specifying the general rules for

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\* Corresponding Author

tourist use and exploitation of beaches (Journal Officiel Algérie, 2003). According to Article 18 of Law No. 03-02: "Any beach open to swimming must be demarcated and have a Beach Tourism Planning Plan (BTPP) specifying the different areas of occupancy, infrastructure, equipment and uses, including the parts not subject to the concession". Algeria, one of the countries, located in North Africa, its coastal area which extends over 1200 kilometers constitutes the most populated geographical sector and the richest in tourist potential. This coastal strip has hundreds of picturesque, diverse beaches where we find urban or rural beaches, hotel beaches, beaches located near a village, and isolated beaches, these beaches have become one of the main factors of tourist attractiveness. We therefore see that tourism in Algeria is based on seaside tourism in the summer season, just the use of the beach and bathing area during the summer holidays (Eddine, 2016). Research case study represented by the four beaches (Chaibia, Klovis, Mersa, Sokhra), are located in the Expansion Zones and Tourist Sites (EZTS) on the coast of Mostaganem (Journal Officiel Algérie, 2003), considered an important sector of the western coastline of the Algeria, attracts a considerable number of vacationers during the summer season. the coastline is an increasingly attractive space (Garnier, 2002). It extends over a length of 124.5 kilometers and includes sixteen (16) expansion areas and tourist sites, and 59 beaches, of which 45 are permitted for swimming (Tourism Directorate of the Mostaganem province, 2023). But all these capacities are not fully exploited, and less developed in terms of tourism development, which reflects unsatisfied tourism especially in accommodation and leisure facilities. The natural state of the coastline must be protected (Journal Officiel Algérie, 2002). Compared to other Mediterranean countries, Algeria is far behind in terms of development and infrastructure to accommodate local and foreign tourists, where the majority of Algerian tourists prefer to spend their vacations outside the country, much more in Tunisia because of the quality of its beaches. It is important to recognize that international tourism, although considered an industry, is more accurately a set of industries, including railroads, airlines, automobile rental companies, hotels etc (Kovaçi, Tahiri, & Bushi, 2020).



**Figure 1.** Beach location  
(Source: Treatment of the researchers, 2023)

The quality of beaches is now of interest to political and administrative leaders in order to develop seaside tourism. The quality of beaches is considered one of the main factors in the attractiveness of coastal tourism, and the establishment of investment projects nearby. It's about knowing what types of beaches users prefer, based on knowledge and observations on the Mostaganem coast. We will study the four beaches (Chaibia, Klovis, Mersa, Sokhra) as a case study and evaluate their quality during the summer season, because the quality of the beaches varies during the tourist season.

This study aims to:

- adopt the quality of beaches as a factor in determining priorities for the planning of expansion zones and tourist sites;
- classification: classification of different beaches;
- increase the attractiveness of beaches;
- the development of beach quality assessment and monitoring tools;
- identify the weak and strong points of the beaches;
- treatment of weak points through the tourist planning operation of the beaches;
- this study is considered as a model and a decision support tool for decision-makers, specialists and beach managers;
- promotion of the seaside tourist attractiveness of the Mostaganem coast;
- encourage tourism investment in expansion zones and tourist sites.

## MATERIALS AND METHODS

### STUDY ZONE

The beaches are located along the Mediterranean coast, in the northwest of the national territory, to the east of the city of Mostaganem. Located in the province of Mostaganem, its perimeter is located in the territory of the municipality of Ben Abdel Malek Ramdane. It is located approximately 275 kilometers south/west of Algiers, 37 kilometers north/east of the capital of the province Mostaganem. The four beaches on the Mostaganem coast benefit from a privileged location due to their geographical location on the Mediterranean coast, with a developed infrastructure network. It benefits from the exceptional capabilities offered by its location, in particular the presence of the sea and the fine sand beach with the leisure area behind the beach in the form of coastal forests (figures 1, 2, 3, 4,5).



**Figure 2.** Chaibia Beach  
(Source: The researchers, 2023)



**Figure 3.** Mersa Beach  
(Source: The researchers, 2023)



**Figure 4.** Klovis Beach  
(Source: The researchers, 2023)



**Figure 5.** Sokhra Beach  
(Source: The researchers, 2023)

### DATA COLLECTION

**Landscape quality criterion:** The first part of the grid concerning the landscape quality indices, requires a lot of quantitative data which must be provided by different administrations and directorates, such as the Directorate of Tourism and the Environment of province of Mostaganem, as well as the municipality of Abdelmalek Ramdane, since the beaches are located on its territory, and also we obtained some information from the tourist development plans of the beaches, and compared them to reality through a field survey. Certain indicators of this criterion require data to be carried out by specialists such as the quality of bathing water. The administrations concerned by this indicator are: the National Observatory of the Environment and Sustainable Development (NOESD) is the services of the Directorate of Health and Population (DHP). In addition we relied on field surveys because it is an important and necessary process in the data collection process in all phases of the research in order to obtain precise and convincing results, therefore the advantage of an evaluation of the quality of the beach is therefore the survey.

**Landscape quality criterion:** Second criterion of attractiveness is the quality of the landscape: Data for these indicators were collected through repeated field visits to the beaches during the summer season and recording observations in order to know the cleanliness of the beach.

**Security criterion:** We chose five (5) indicators to measure this criterion, number of viewpoints, in order to determine a minimum value for this indicator, several variables must be taken into account: coastline (m), number of viewpoints per linear kilometer, distance average separating two watchtowers. This indicator is present on the beaches tourism planning plans (BTTP), and the two indicators concerning the national gendarmerie centers and the civil protection centers are specified on the (BTTP). In addition, we verified these data by observing the beach area. We also carried out visits to the beaches to collect statistics relating to the number of drownings and deaths from civil protection centers.

**Equipment criterion:** In this factor, information was collected by field survey in order to quantitatively identify all the equipment installed on the four beaches, which are considered as measurable indicators in order to evaluate this criterion.

**Development criterion:** The data for this criterion were collected from the Transport Directorate of the province of Mostaganem, and the municipality of Abdelmalek Ramdane with the aim of collecting information related to transport, and we also relied on the planning plans beach tourism (BTTP) and field visits in order to know the level of planning for each beach.

These beaches are also located in Expansion Zones and Tourist Sites. The province of Mostaganem includes 16 areas for tourism expansion, three of which are in the municipality of

Ben Abdelmalek Ramdane, 15 areas were determined according to (Journal Officiel Algérie, 1988), and one area, Sakhra, was announced according to Executive Decree No. 10-131 of 29 /04/2010 (table 1).

**Table 1.** Beaches of Expansion Zones and Tourist Sites  
(Source: Directorate of Tourism, 2023)

Beaches	Municipality	Distance from Municipality (km)	Total Surface (M <sup>2</sup> )	EZTS	
				Name	Su(Ha)
Chaibia	Ben Abdelmalek Ramdane	09	30000	CAP IVI	883
Klovis	Ben Abdelmalek Ramdane	04	120000	Ramdane plage	182
Mersa	Ben Abdelmalek Ramdane	04	60000	Ramdane plage	182
Sokhra	Ben Abdelmalek Ramdane	14	120000	Sokhra	101

## METHODS

In order to obtain convincing results and a fair assessment of the quality of the beach. The process is divided into two stages, the first is the field investigation stage then the second is the creation of the evaluation grid with the different criteria which will emerge from the initial investigation. The majority of researchers who have worked on beach quality have had to go through this stage to establish their evaluation grids. We used indicators from his previous work, as well as indicators used in already existing evaluation systems and suggested by experts and researchers (Robert, 1999). The interest is to know how users prioritize the different factors and what importance they attach to them in the quality of the beach. To create our grid, we relied on already existing evaluation grids, Robert Morgan's first grid. You should know that his evaluation grid is made up of 49 indicators, which were divided into 3 categories:

- Physical indicators (19 parameters)
- Biological indicators (9 parameters)
- Human indicators (21 parameters).

The second grid by Stephen Leatherman which aims to evaluate public beaches in the United States. The latter is made up of 50 criteria (Stephen, 1997). The last evaluation grid is that of Virginie Cazes-Duvat, professor of geography at the University of La Rochelle, which was created to evaluate the quality of Seychelles beaches based on an attractiveness index. The grid is made up of 50 criteria (Frédéric, 2005). We also took into account expert opinions. The various factors are, at most, quantitative, measurable factors, such as (the width of the beach, width of the leisure area behind the beach, the number of toilets, the quality of the water, etc.)

Beach quality assessment method chosen is multi-criteria for decision method following the following steps: determine the objective of the study is evaluation of the quality of the beaches in expansion zones and tourist sites of the municipality of Ben Abdelmalek Ramdane.

Choice of criteria based on consultation with designers, town planners, managers, decision makers, and users, evaluation was carried out on the basis of (40) indicators which were divided into five (5) attractiveness criteria :

- Landscape quality criterion (13 indicators)
- Health quality criterion (05 indicators)
- Safety criterion (05 indicators)
- Equipments criterion (08 indicators)
- Planning criterion (09 indicators)

Choice (40) of statistical indicators making it possible to quantify these criteria, "It should be noted that the constraints of data accessible at the local level must be taken into account in the

selection of indicators, which must be accessible, available, measurable and readable (Hadji, 2012).

Assign each factor a value, a greater or lesser importance in the quality of the range (from 1 to 5 knowing that 5 is excellent). (Same value scale of Morgan, Stephen and Duvat).

**Choice of a method of representing the results.** A series of indicators were used to provide a quantitative comparison of the different beaches, so after this evaluation a profile could be carried out for each of the beaches, and after having evaluated four beaches, a classification could possibly be carried out for all the beaches (table 2).

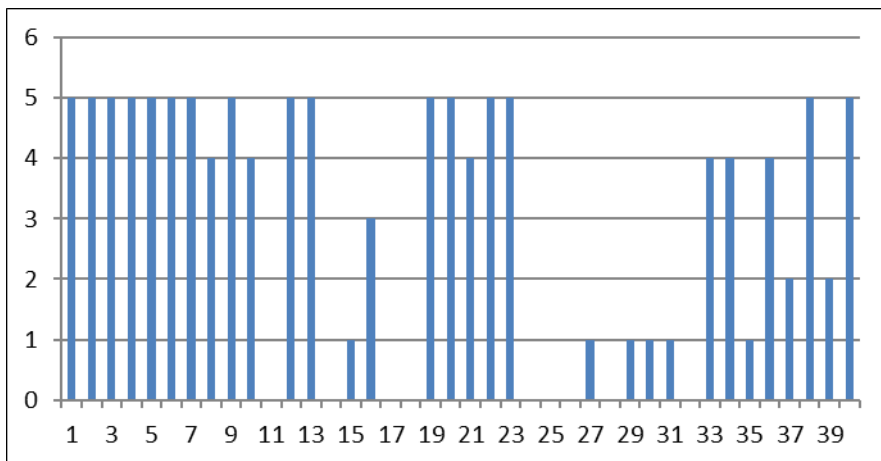
**Table 2.** Beachs quality assessment grid  
(Data source: The researchers, 2023)

Evaluation Criterias	Evaluation indicators	1 ≤ Values ≤ 5			
		Chaibia	Mersa	Klovis	Sokhra
Landscape Quality	1. Beach width	5	4	5	5
	2. Nature of beach materials	5	4	5	5
	3. Sand color	5	5	5	5
	4. Water color	5	4.5	5	5
	5. Bathing water quality	5	3	5	5
	6. Depth of bathing area	5	5	5	5
	7. Bath area substrate	5	2.5	5	3
	8. Floating matter	4	4	4	4
	9. Width of the leisure area behind the beach	5	1	5	4
	10. Coastal currents	4	4	4	3.5
	11. Presence of stagnant water	4	4.5	4.5	4
	12. Vegetation	2.5	4	5	2.5
	13. Quality of the side view	3	3	5	3
Health Quality	14. Number of WC/shower	1.5	2.5	2.5	2
	15. Number of disabled toilets/showers	1	1	1	1
	16. Sanitation network	1	2	3	1
	17. Number of trash cans	2	2.5	3.5	3.5
	18. Trash on the beach	2.5	3	2.5	2.5
Safety	19. National gendarmerie centers	5	5	5	5
	20. Civil protection centers	5	5	5	5
	21. Number of watchtowers	1	1	4	1
	22. Delinquency and crime	5	5	5	5
	23. Number of deaths	5	5	5	5
Equipments	24. Number of cafes	1	2	1.5	2
	25. Number of restaurants	1	2	1.5	2
	26. Kiosks	1	2	1.5	2
	27. Cabins	1	1	1	1
	28. Sports practices	1	1	1.5	1
	29. Child games	1	1	1	1
	30. Accommodation availability	1	2.5	1	1
	31. Medical Center	1	1	1	1
Planning	32. Transport to the beach	2	3	3.5	2
	33. Parking conditions	3.5	3	4	3
	34. Access ramps	2	2	4	3
	35. Wooden slats	1	1	1	1
	36. Public lighting	1	3	4	1.5
	37. information panels	2	2	2	2
	38. Roads to the beach	5	5	5	5
	39. drinking water supply system	1	4	2	1
	40. Internet	5	5	5	5
Total		117	118	139.5	119.5

## RESULTS AND DISCUSSION

The graph below presents the Klovis beach, which is considered more attractive, has multiple assets, its landscape quality is 100% natural without any human intervention, and it presents a high level of landscape quality which is considered among the most renowned beaches of the country. According to the general perception, ecotourism is based on the natural environment (Tatar, Herman, Dehoorne, & Zarrilli, 2017). The exceptional character of the landscape is represented by the color and quality of the bathing water, as well as by the dimensions of the beach and its magnificent golden sand, in addition to the extensive coastal forest behind – beach with dense vegetation which provides shade, calm because it is bordered by a fringing reef. It is around twenty meters wide and bordered by dunes which constitute a picnic area.

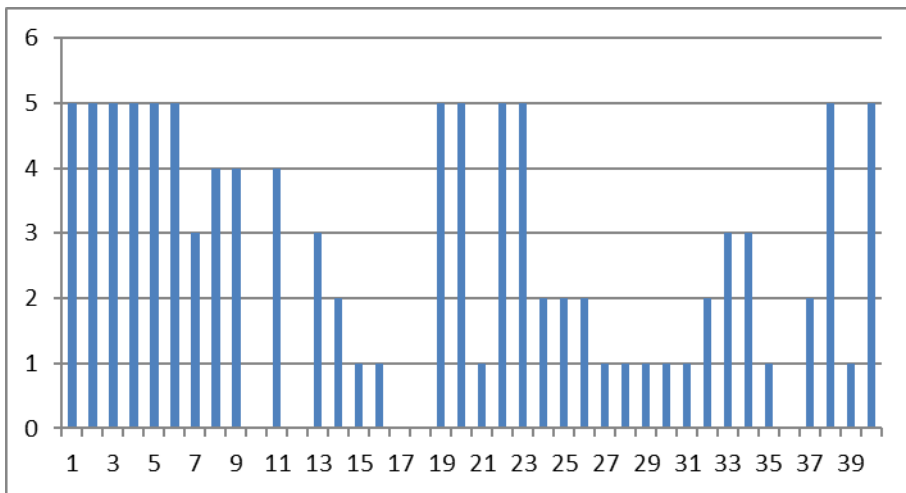
The sanitary quality of this beach is average, there is only one sanitary cabin far from the sandy and swimming area, it does not comply with hygiene and sanitation standards, total neglect of the disabled category (people with reduced mobility) , the sanitation network is proposed in the tourist development plan for the beach (Municipality of Abdel Malek Ramande, 2023), but it has not yet been implemented on the ground. The beach is secured by national gendarmerie centers and protection centers, it has a high quality of security inside and outside, which increases the attractiveness of tourists. The beach is busy during the day like night. The attractiveness associated with the quality of equipment (cafes, restaurants, accommodation, sports equipment, etc.) is reduced for the beach. In terms of development, Klovis beach is located in an environment where the road infrastructure network is relatively dense, meshed, with roads of national and regional importance. But in terms of transport, it is insufficient and not diversified, relying on a single road transport line. Klovis Beach is equipped with vehicle and bus parking areas, but it would be better to provide other types, such as parking lots for maritime transport widely used in tourist coastal countries, as well as offering at least one parking lot for air transport (cable car), in order to connect the beach to the City of Ben Abdelmalek Ramdane and other road networks located higher up. This has the immediate effect of decreasing travel time and avoiding traffic congestion, especially during the summer season, so it can relieve other modes of transportation and unblock the beach and tourist expansion area. There is nothing cleaner than cable car transport, there is nothing more secure, there is nothing quieter and what's more, there is nothing less expensive, plus it is an attraction for tourists (figure 6).



**Figure 6.** Klovis Beach Profile  
(Source: The researchers, 2023)

Sokhra beach is a beach located on the double national road, which offers great ease of access. Its acceptable natural quality in terms of (beach width and healthy, unpolluted bathing

water, with weak currents, sand color...etc.) As indicated on the profile. The leisure area behind the beach is wide and located in the expansion zones and tourist sites which will be planning in the future. The planning and management of an expansion zone and a tourist site must take place in accordance with the requirements of the tourist planning plan drawn up by the administration responsible for tourism (Journal Officiel Algérie, 2007). The sanitary quality is poor, because sanitation depends on septic tanks, and the toilets are unsanitary, without showers, because the AEP network is currently not available on the ground, and drinking water is supplied by tank trucks. The level of layout and equipment is uncomfortable; it does not meet the needs of tourists and vacationers, because it is low in quantity and quality. The beach has only parking, and a kiosk, a cafe and a small restaurant. The indicators (38 and 40) presented on the profile are in good quality, which indicates that the beach is not isolated (figure 7).

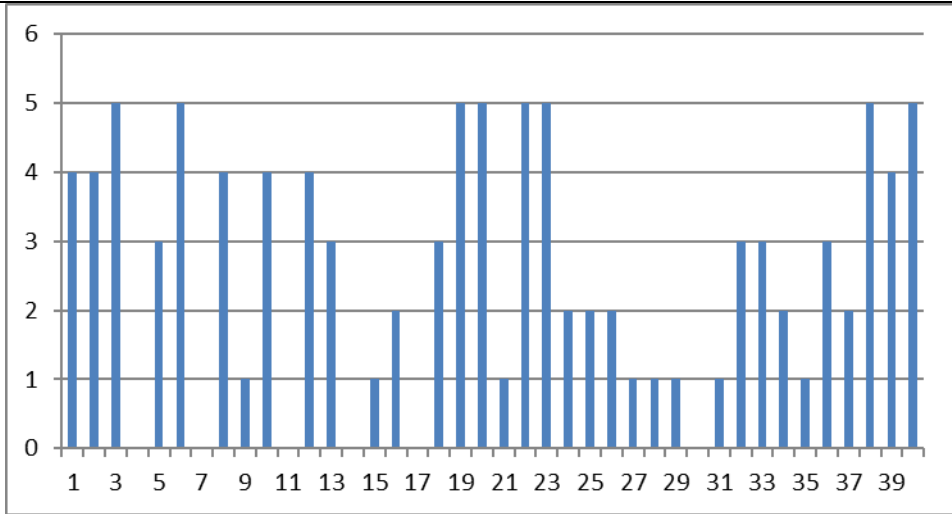


**Figure 7.** Sokhra Beach Profile  
(Source: The researchers, 2023)

Three main types of zones occupy the Mersa beach site: the urbanization zone is in the form of illegal bungalows, near the beach, whose establishment in successive rows parallel to the sea, ignoring the landscape characteristics of the site, blocks visual perspectives of the sea. Agricultural and natural areas are a mountainous area behind the beach, covered with dense wild plants to the rear with agricultural areas in front. In terms of equipment, there are some (cafes, fast-food restaurants, kiosks) which do not respect hygiene rules, and their architectural appearance is not adapted to the natural environment, which should be made of wood, mobile and dismountable. The sanitary quality of this beach is considered the best among other beaches, as it contains a certain number of toilets and showers, trash cans, but these remain insufficient. The indicators from (19 to 23) represent the quality of security, the profile shows that the beach is secure without any risk (figure 8).

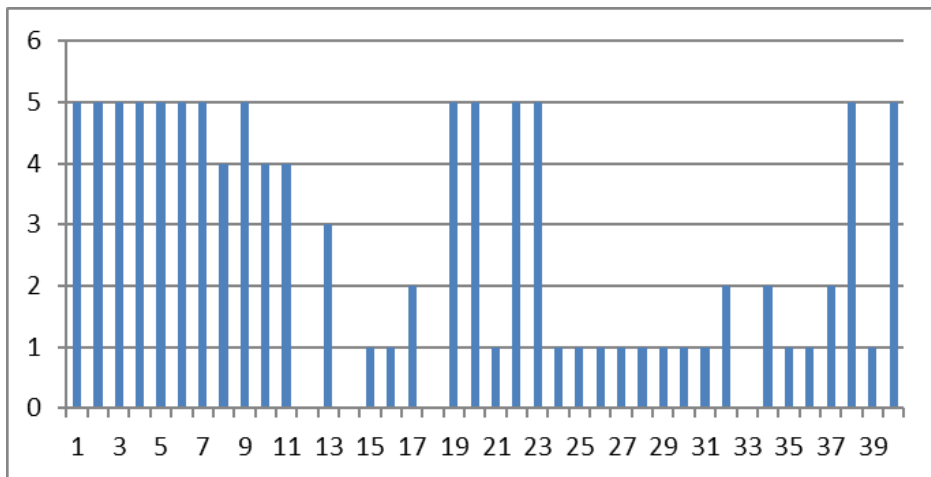
Chaibia beach is located in the largest expansion zones and tourist sites planned for planning in the future with an estimated area of 883 HA. The landscape quality of this beach is acceptable and excellent in seven natural indicators as shown in the profile (1 to 7), such as (beach width, nature of beach materials, sand color, color, quality and depth of the beach bathing water...etc.) It is characterized by good quality security guaranteed by Civil Protection and National Gendarmerie. Sanitary quality is poor due to the absence of a sanitation network and a specific waste management plan. Tourism cannot be done without taking the environment into account, it would be part of the sudden death of this activity (Abdelhalim & Roukia, 2021).





**Figure 8.** Mersa Beach Profile  
(Source: The researchers, 2023)

Beach accesses are available in good condition, but there is no transportation plan to the beach and access is only by private car. One of the negative points of Chaibia beach is the total absence of equipment, which reduces the attractiveness of the beach. This leads to exploitation of the beach in an anarchic and uneconomical manner for the beach space, and does not meet the desires of visitors. It is necessary to allocate spaces to commercial activities such as restaurants, cafes, kiosks, as well as their location on the beach in a studied manner in terms of number and surface area (figure 9).



**Figure 9.** Chaibia Beach Profile  
(Source: The researchers, 2023)

The attractiveness rate of the beaches considered varies from 58.5 to 69.75% . The most attractive of them is Clovis Beach, located in the expansion zones and tourist sites of Ramadan beach, with an area of 182 hectares, and it will constitute an important element to increase the tourist attractiveness of this tourist area after its layout. The three beaches have an average attractiveness (58.5 to 59.75%), present multiple advantages. Their natural and safe qualities are comfortable.

Among the weak points which harm its attractiveness are the poor quality of its equipment and its sanitary quality (table 3).

**Table 3.** The quality of the Beaches  
(Source: The researchers, 2023)

The beaches	Quality index	
	Value	%
Klovis	139.5	69.75
Sokhra	119.5	59.75
Mersa	118	59
Chaibia	117	58.5

## CONCLUSION

The four beaches (Klovis, Sokhra, Mersa, Chaibia) in expansion zones and tourist sites are Mediterranean, sandy, rural beaches with very high summer attendance by mainly national, family tourists, for daytime and nighttime use. This natural environment, difficult to develop, in contact Land / Sea, is the subject, in the summer season. Achieving good beach quality remains a concern for developers, town planners, landscapers and beach managers. To obtain quality beaches we will need quality planning plans. Our work is considered the first initiative to evaluate our beaches, which are considered an important factor in attracting tourists and promoting coastal and seaside tourism. The level of quality of public beaches is average in general, this reflects another aspect of the coastal management policy, the government's effort to meet demand remains insufficient, the government's efforts to meet demand remain insufficient in relation to of existing tourist demand and potential. All these beaches are located in expansion zones and tourist sites declared by Decree No. 88-232. The equivalent of 35 years of its declarations as tourist sites, and until now they are not planned, which influenced the attractiveness of the beaches and the choice of tourists and even residents to prefer other beaches outside the country.

The four beaches lack spaces for activities and sporting events, the guides" a tourist guide is defined as a person with a broad knowledge whose primary role is to inform, thus performing the function of an educator (Tătar, Herman, & Giurgiu, 2017). the programming of spaces for activities and sporting events in the tourist planning plans of the beaches is an important element to liven up the beaches and increase their attractiveness such as the sports grounds. Sand-Ball, Beach-Tennis and Beach-Volleyball. The smooth running of the tourist season depends on a well-studied and well-programmed tourist planning plan. When developing beaches for tourism, tourism must be taken into account throughout the year and not just seasonal tourism, because outside the season (November to April), weekends, especially fridays afternoon, is used by permanent residents, by the inhabitants of the region as a public park (mountain bikes, jogging, walks, etc.). The tourist planning of beaches must contain principles aimed at maximum conservation of the initial topography and prevention of soil and water table pollution, taking into account the geological and hydrological context (Journal Officiel Algérie, 2003). The cabins adapt to the climatic context, depending on the sunshine and the direction.

## Aknowlegments

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## REFERENCES

Abdelhalim, A., & Roukia, B. (2021). Environmental citizenship for the rational management oh household and similar waste in the City of Bejaia, Algéria (Report and limits). *Analele*

- Universităţii din Oradea: Seria Geografie*, 31(2), 164 - 176.  
doi:<https://doi.org/10.30892/auog.312107-869>
- Duvat, V. (2008). La qualité des plages au cœur des enjeux de développement : La situation des îles de l'océan Indien (Réunion, Maurice, Seychelles). *Open Edition Journals*, 7, 1-21.  
doi:<https://doi.org/10.4000/echogeo.8993>
- Eddine, T. N. (2016). Conflict Between Coastal Development and Sustainability: case of Mostaganem, Western Algeria. *European Journal of Sustainable Development*, 5(4), 13-24. doi:<https://doi.org/10.14207/ejsd.2016.v5n4p13>
- Frédéric, C. (2005). *Methodology for evaluating a sustainable neighborhood development project*. Rochelle: University of La Rochelle.
- Garnier, M. N. (2002). *The tourist area*. Paris: Bréal, Rosny.
- Hadji, L. (2012). Méthode d'évaluation de la qualité des espaces publics dans. *Revue d'Économie Régionale & Urbaine*, 857- 874.
- Kovaçi, I., Tahiri, A., & Bushi, F. (2020). Travel and tourism industry development the case of kosovo. *Analele Universităţii din Oradea, Seria Geografie*, 30(2), 147- 156.  
doi:<https://doi.org/10.30892/auog.302104-844>
- Municipality of Abdel Malek Ramande (Mostaganem province, Algeria). (2023). *Tourism activities plan*. Abdel Malek Ramande: Tourist Development Plan.
- Journal Officiel Algérie. (2007). *Official journal no. 01. Establishing the terms and conditions for establishing the tourist development plan for expansion zones and tourist sites. Executive decree No. 07-86*. Alger: Journal Officiel Algérie.
- Journal Officiel Algérie. (2003). *Official journal no. 11. Determining the general rules for the tourist use and exploitation of beaches. Law no. 03-02*. Alger: Journal Officiel Algérie.
- Journal Officiel Algérie. (2003). *Official journal no 11. Relating to expansion zones and tourist sites. Law no. 03-03*. Alger: Journal Officiel Algérie.
- Journal Officiel Algérie. (2003). *Official journal no. 11. Relating to the sustainable development of tourism. Law no. 03-01*. Alger: Journal Officiel Algérie.
- Journal Officiel Algérie. (2002). *Official journal no. 11. Relating to the protection and development of the coastline. Law no. 02-02*. Alger: Journal Officiel Algérie.
- Journal Officiel Algérie. (1988). *Official journal no. 51. Announcement of tourism expansion areas. Decree no. 88-232*. Alger: Journal Officiel Algérie.
- Robert, M. (1999). A novel, user-based rating system for tourist beaches. *Tourism Management*, 20(4), 393-410. doi: [https://doi.org/10.1016/S0261-5177\(99\)00015-1](https://doi.org/10.1016/S0261-5177(99)00015-1)
- Stephen, L. (1997). Beach rating: a methodological approach. *Journal of Coastal Research*, 13, 253-258.
- Tatar, C. F., Herman, G. V., Dehoorne, O., & Zarrilli, L. (2017). Ecotourisme in the Danube delta. *Analele Universităţii din Oradea, Seria Geografie*, 27(1), 122-132.
- Tătar, C., Herman, G. V., & Giurgiu, A. (2017). Analyse of the licensed tourist guides' evolution of Romania and critical issues affecting their activity. *Analele Universităţii din Oradea, Seria Geografie*, 27(2), 231- 235.
- Tourism Directorate of the Mostaganem province (Algeria) (2023). *Work plan related to tourism activities*. Mostaganem: Tourist Development Plan.

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