

Research Article.

Evaluation of the implementation of the coastal law in the communes of West Algiers

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Abstract

The Mediterranean represents only 0.7% of the ocean's surface area, but is one of the major biodiversity hotspots, with 28% of endemic species, 7.5% of the world's marine fauna and 18% of the world's marine flora (RAC/SPA, 2015). As a mediterranean country, Algeria with its coastline is rich and diverse: 1,622 km of coastline alternates between rocky shores, sandy beaches and wetlands. The major part of the population is concentrated there, and activities are dense. Indeed, in 1998, the population of the coastal wilayas was estimated at 12564151, or 43% of the national population permanently residing within a 50 km strip of coastline, and the number of industrial units was 5242, or 51% of the national total (MATE, 2000). In response to all the environmental problems created by this high concentration, the Algerian state has introduced a specific law for the coastline: law no. 02-02 of 22 Dhou El Kaada 1422 - corresponding to February 5, 2002 - relating to the protection and enhancement of the coastline. The aim of this article is to assess the implementation of the coastal law in the wilaya of Algiers through the use of indicators relating to the measures set out in the law.

Keywords:

Coastal law,
Sustainability
assessment;
Algeria.

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1 INTRODUCTION

In Algeria, the importance of managing coastal areas is a relatively recent concern. Law 90-29 of December 1, 1990 on urban planning and development is the first legislation to define "special provisions for certain parts of the territory", in particular the coastal zone.

The law 02-02 is the first regulatory instrument dedicated to coastal areas in Algeria. Its promulgation in 2002 marked the beginning of the era of national management of coastal environmental issues.

The law is divided into 3 main chapters: the first part contains definitions, followed by a chapter entitled "Fundamental principles", which explains the broad outlines of coastal protection and enhancement, a second chapter entitled "Littoral", which sets out the scope of the law.

In this article, we will limit ourselves to a description of the following parameters, which will be the main focus of the indicators used for the assessment.

Law 02-02, comprises 46 articles divided into 3 main headings: a section dedicated to definitions of the components of the coastal domain, a section detailing the means of implementing the law, and finally a section grouping together the coercive measures for enforcing the established rules.

The provisions of this text apply to all islands and islets, as well as to any strip of land with a minimum width of 800 meters along the sea, and to all wetlands and their shores over a width of 300 meters, as soon as part of these areas is a coastline as defined.

Furthermore, any construction on a strip of land 100 meters wide from the shore is subject to a non-edificant servitude, although constructions requiring the immediate proximity of water are authorized on this strip.

The provisions of this law have not, however, prevented urbanization from spreading into areas close to the shore. These areas have also suffered considerable degradation due to unauthorized sand extraction and uncontrolled beach use.

2 MATERIALS AND METHODS

In order to assess the effectiveness of the implementation of the littoral law in the communes of West Algiers, the indicator tool was chosen. Depending on the relevance and availability of data from the administrations concerned, the following indicators were chosen to assess compliance with the littoral law:

1. Population of the coastal commune / population of the wilaya;
2. Population density of the commune;
3. Urbanized area of the commune;
4. Number of discharges in the commune / number of kilometers of coastline in the commune;
5. Number of beaches closed to bathing/total number of beaches in the municipality;
6. Urbanized servitude area;
7. Linear urbanized coastline / Linear coastline of coastal municipality.

3 RESULTS AND DISCUSSION

The results obtained are presented in the table 1.

The analysis summarized here shows that 3 sectors have been singled out for non-application of the coastal law:

The first sector includes the following communes: Algiers center, la Casbah, Bab el Oued, Bologhine, the coastal law is coming a bit too late. The findings show the highest number of infractions of the coastal law and the near-saturation of all communal space. These infractions in terms of urbanization of the coastline and the servitude zone (300 m) existed long before the introduction of the Coastal Law, but after its promulgation no legal provisions were taken into account; for example, for urban wastewater treatment (22), which provides for a wastewater treatment plant to be installed in every agglomeration with more than 100,000 inhabitants. There are no wastewater treatment plants, and all wastewater is discharged directly into the sea, causing the disappearance of ecosystems, not to mention the human health problems that arise, particularly during the summer season.

Table 1. Conformity of the communes of West Algiers with the coastal law

Indicators	1	2	3	4	5	6	7	Sum Indicators	Comments
Coastal communities									
Alger centre	-	-	-	-	-	-	-	0	No conformity
La Casbah	-	-	-	-	-	-	-	0	No conformity
Bab el Oued	-	-	-	-	-	-	-	0	No conformity
Bologhine	-	-	-	-	-	-	-	0	No conformity
Rais Hamidou	+	-	-	-	-	-	-	0	No conformity
Hammamet	+	+	+	-	-	-	-	0	No conformity
Ain Benian	-	-	-	-	+	-	-	0	No conformity
Cheraga	-	+	-	-	+	-	-	0	No conformity
Staoueli	+	+	+	-	+	-	-	1	No conformity
Zéralda	+	+	+	+	-	-	+	3	Low conformity

List of Indicators : 01: Population of the coastal municipality / population of the wilaya - 02: Population density of the municipality - 03: Urbanized surface area of the municipality - 04: Number of discharges in the municipality / coastal linear length of the municipality - 05: Number of beaches closed to bathing / total number of beaches in the municipality - 06: Urbanized easement surface area - 07: Urbanized coastal linear length / coastal linear length of the coastal municipality. (+) : indicator complies with standard; (-) : indicator does not comply with standard.

Scale: (0 - 1) : Non-compliant / (2 and 3): Low compliance / (4- 5) : Compliant.

The second sector includes the following communes: Rais Hamidou, Hammamet, Ain Benian, Cheraga, Staoueli, where there are also fairly significant infractions, but a certain percentage of the surface is non urbanized. Many of the infractions in this sector took place after the introduction of the coastal law, such as the urbanization of the servitude zone and the linear coastline.

Nevertheless, we can cite one example of compliance: the presence of two wastewater treatment plants in the communes of Ain Benian and Staoueli. In the case of the Ain Benian , a second plant is currently under construction. There are also a number of industrial units and zones in this sector, particularly in the Rais Hamidou and Ain Benian coastal community, where small-scale industrial zones discharge effluent containing certain hazardous chemicals without treatment. What's particularly noteworthy in these communes is the presence of two small islands (Rais Hamidou); according to Article 8 of the Coastal Law, this type of ecosystem should be the subject of general protection and enhancement measures, as well as the *Posidonia oceanica* meadow, the most important ecosystem in the Mediterranean, representing the

nursery for numerous species of commercial interest in the area. Actually, nothing has been done, even worse the presence of industry and waste disposal is causing the disappearance day by day of a biodiversity that is still poorly known.

Finally, the third sector includes a single municipality: Zéralda, where there are fewer infractions of the coastal law, and where the percentage of urban development in the servitude zone is the lowest in the whole of West Algiers. However, even if the Zéralda ZET is the only one to have benefited from a planning document., a large number of 'heavy' infrastructures are planned in a very sensitive area of the commune (presence of dune belts), which risks compromising the sustainability of the commune's ecosystems.

4 CONCLUSION

The wilaya of Algiers, faces a number of development challenges, especially after the recession of the 90s. This development must be sustainable.

The Algerian government seems to be aware of this, having ratified numerous international conventions and enacted numerous laws, notably the Coastal Act. But the reality on the ground shows that economic and social issues take precedence over environmental ones. We are witnessing some of the most alarming anarchic development of coastal areas.

More than 3/4 of the coastline in the wilaya of Algiers is urbanized, causing countless problems: pollution, erosion, destruction and disappearance of sites of ecological interest that are still little known in the wilaya.

Even though the 02-02 coastal law is innovative in that it revalues the naturalist dimension of coastal areas, it does not define "coastal development" precisely, but rather shows that protection and enhancement make a general contribution to development. Its application in the field seems to be non-existent at commune level. None of the communes in West Algiers complies with the provisions of the Coastal Act. For some communes: Algiers Centre, Casbah, Bab El Oued and Bologhine, the Coastal Act comes after the anarchic exploitation of all the spaces and resources of these communes. The communes of : Rais Hamidou, El Hammamet, Ain Benian, Cheraga and Staoueli, the Coastal Act does not seem to have had any impact on urbanization, land use or decision-making in terms of management and sustainable development. The commune of Zéralda appears to be the only commune that complies to a greater or lesser extent with the provisions of the Coastal Act.

It would appear that the non-application of the coastal law is due to the reluctance it arouses in local administrations (town planning, tourism, etc.). Also, there is no hierarchical control, and the central administrations that create the legislation do not ensure follow-up at local level. Finally, implementing decrease are slow in coming.

- **Conflict interest**

The authors confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome. Also, there are no funding was received for this work.

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