

Interest of quality-based policies for ICZM implementation: from theoretical to practical considerations

Virginie DUVAT

Professor in Coastal Geography
UMR LIENSs 6250 Littoral, Environment and Societies
University of La Rochelle-CNRS
Institute of Littoral and Environment
2, rue Olympe de Gouges
17 000 La Rochelle, France
virginie.duvat@univ-lr.fr

Abstract

Over the past twenty years, scientific works have demonstrated the interest of quality-based policies to support the implementation of sustainable development principles in tourism coastal areas (De Ruyck *et al.*, 1995; Leatherman, 1997; Cendrero et Fischer, 1997; Morgan, 1999; Cendrero *et al.*, 2003; Ergin *et al.*, 2006; Cervantes and Espejel, 2008). In the same time, ICZM implementation have made limited progress because of conflicts, administrative constraints and difficulties to involve all stakeholders into the design of a common territorial project (Billé, 2006). Beyond that observation, the current development of quality-based policies, which is supported by the strengthening of environmental concerns and regulations, can be seen as an opportunity for ICZM implementation. Here, we propose to expose the results of an innovative and experimental project aiming at supporting practitioners in the implementation of ICZM through a coastal quality approach. This project was launched in 2008 in the Poitou-Charentes region on the Atlantic coast of France. Three years after its implementation, a feedback and an analysis of its transferability can be proposed. So, we will firstly expose the theoretical foundations of our deliberation on the basis of a critical literature review. Then, we will explain in which way quality-based policies can be conducive to ICZM from the analysis of this project. At last, we will highlight the value of quality assessments for involving all stakeholders into the design of a common territorial project and insist upon the major role of building a common vision of the future for reaching integration.

Keywords: ICZM, beach quality, quality-based policies, quality assessment, coastal indices, France

Introduction

Over the past twenty years, scientific works have demonstrated the interest of quality-based policies to support the implementation of sustainable development principles in tourist coastal areas (De Ruyck *et al.*, 1995; Leatherman, 1997; Cendrero et Fischer, 1997; Morgan, 1999; Cendrero *et al.*, 2003; Ergin *et al.*, 2006; Cervantes and Espejel, 2008). In the same time, in many areas, ICZM implementation have made limited progress because of conflicts, administrative constraints and difficulties to involve all stakeholders into the design of a common territorial project (Billé, 2006). Beyond that observation, the current development of quality-based policies, which is supported by the strengthening of environmental concerns and regulations, can be seen as an opportunity for ICZM implementation.

In this context, we propose to analyze in which way quality-based policies can be conducive to ICZM. According to T.E. Chua (1993) and B. Cicin-Sain (1993), we define ICZM as a continuous process of coastal resource management based on a holistic and integrative approach¹ aiming at addressing the current problems and issues through the implementation of basic principles, territorial strategy and specific accompanying methods. The main difficulties lie in satisfying public interest by seeking to achieve a shared vision of the future (Kenchington and Crawford, 1993), to define an operational territorial scale for a project² based on the sharing of key issues and a consistency with the administrative organization (Lozachmeur, 2004), and “*to have stakeholders, individuals and structures that are capable of bringing about the described management*” in the long term (Guineberteau et al., 2006).

We will firstly expose the theoretical foundations of our deliberation on the basis of a critical literature review considering three main components of ICZM: the principle of integration, the design and implementation of a territorial strategy, and the integration building process that is crucial to implement a public policy. Then, we will illustrate these assertions by analyzing an innovative quality-based project that is being conducted in Oléron Island on the Atlantic coast of France. We will insist upon the major role of building a common vision of the future through the design of a territorial project for reaching integration. At last, using the same case study, we will show how integration between science and management can support decision-making and coastal management.

1. Theoretical considerations on the way in which a quality-based policy can be conducive to ICZM

From a theoretical point of view, at least three arguments can be put forward to support the idea that a quality-based public policy can support ICZM implementation.

1.1. Integration as a main component of quality-based public policies

At first, we will demonstrate that quality-based policies can be conducive to ICZM because they are favourable to the implementation of integration through various ways.

The concept of quality positively encourages the promotion of the holistic and systemic approach required by ICZM in that it incorporates all issues related to coastal environment, development and management, and is therefore favourable to the consideration of the wide range of stakeholders concerned by coastal management (practitioners, decision-makers, users, scientists...). That is the first reason why it can bring a valuable support to ICZM implementation. Indeed, quality is both “objective”, because it can be measured using references to established standards (Alkalay et al., 2007; Benedict and Neumann, 2004; Cendrero and Fischer, 1997; Nelson et al., 2000; Somerville et al., 2003), and “subjective” in that it is relative to population categories that have specific preferences and expectations (Cervantes and Espejel, 2008; Cervantes et al., 2008; De Ruyck et al., 1995; Marin et al., 2009; Micallef et

¹ Integration is at the same time spatial, administrative, sectoral, environmental, science/management and temporal (Chua, 1993).

² A “project territory” must be sufficiently broad and integrated to the national and supra-national dynamic to operationally implement ICZM (Cicin Sain, 1993; Meur-Ferec, 2009).

al., 2004; Nordstrom and Mitteager, 2001; Pereira et al, 2003; Zube and Pitt, 1981). The “objective beach” can be defined on the basis of national regulations, that are partly based on international directives or agreements as for bathing areas' water quality, and of scientific expertise establishing what is a healthy coastal environment from a sedimentary, biophysical or ecological perspective. Beach awards such as the European Blue Flag, for instance, can also be used to define the “objective” quality of a beach as they correspond to an official standard. In the same way, beach charters that are designed, adopted and implemented by practitioners, in accordance with regulations and/or wise management principles, can be considered as standards. So, the “objective” approach of a beach enables the consideration of regulations, scientific knowledge, public policies and NGOs actions (as NGOs played a major role in the emergence of beach awards), which supports the integration of numerous stakeholders into coastal management, with their specific views and interests. Due to the importance of the fields it covers and the wide range of stakeholders it takes into account, the concept of quality can support not only administrative and institutional integration at different scales³, but also sectoral, spatial⁴ and temporal integration, since the improvement of quality is, like ICZM, a slow process. In addition, the “subjective” approach of a beach allows the integration of user perceptions, expectations and preferences, as it is based on a representative set of interviews conducted with various groups of users (tourists, day-trippers, main and second home residents). So, a quality-based policy also addresses the ICZM requirement for public participation as the undertaking of surveys (Cervantes et al., 2008; Ergin et al., 2006; Morgan, 1999; Oh et al., 2010; Roca and Villares, 2008) allows the development of infrastructure schemes that meet user demand (Chua, 1993). On another hand, awareness raising activities contribute to public integration into coastal policies through the strengthening of eco-citizenship, which facilitates in turn public policies implementation.

Finally, quality-based policies are conducive to the integration of science and management since research, which plays a major role in the implementation of such policies, can usefully contribute towards the building of a comprehensive view of coastal issues (Cicin-Sain, 1993), a common knowledge, and to methods for the assessment and monitoring of environmental quality and public policies (Cendrero and Fischer, 1997; Cendrero et al., 2003).

1.2. Interest of quality-based policies for the design and implementation of a territorial project

As reminded in the above definition of ICZM, the design of a territorial strategy and its integration into planning documents constitute a main step in ICZM implementation. On that point, the main challenge is to make stakeholders get involved into both phases in the long term. Through the positive vision that it provides to a territorial project - as “quality” expresses both a project and a positive goal to reach - a quality-based policy is able to renew the approach angle of a public policy and encourage positively

³ The implementation of the EU Directive on bathing water quality is an example of the inclusion of the supra-national scale in national public policies.

⁴ In the sense of land-sea integration, mainly through the central role of the quality of bathing water and water activities in the quality of tourist sites.

stakeholder participation. By not stigmatizing economic development, unlike the policies of environmental “protection”, “preservation” or “conservation” that arose in the 1970's and 1980's, it carries a balanced and dynamic vision of coastal development and management. As such, it may interest and gather together all the stakeholders in charge of coastal management, and enhance their work, which is a prerequisite for the construction of ICZM in an oft-confrontational context.

In addition, quality-based policies provide a valuable opportunity to support the ICZM process in that they are favourable to the establishment of development and management plans at a territorial scale of suitable dimension (inter-municipality or regional), on the basis of shared issues (Cendrero and Fischer, 1997; Ferrarini et al., 2001). Indeed, the spatial scale at which policies and projects are conducted plays a major role in stakeholder involvement. Stakeholders have to feel concerned about issues to get involved into their resolution and management in the long term. Because they address problems of every day life and major challenges for the future, quality-based policies can mobilize stakeholders in the building and implementation of a territorial project in the long term.

At last, by strengthening territorial attractiveness (Leatherman, 1997) through the positive image it provides to the outside world, and reducing socio-spatial inequalities at local and regional scales (Nelson and Botterill, 2002), a quality-based policy can play a genuinely structural role for a territory.

1.3. Interest of the ICZM model for quality-based public policies

Their characteristics make quality-based policies crucial levers to implement integration in coastal areas. Indeed, they can follow the same implementation model as ICZM projects, as defined by S. Olsen (1993) and P. Christie (2005). As shown on Figure 1, this model is a cycle comprising 5 steps that are devoted respectively to the diagnosis phase (step 1), the design of a long term territorial strategy on which planning documents are based (step 2), their formal adoption and funding (step 3), their implementation (step 4), and the evaluation of the process (step 5), that leads to a new diagnosis phase, and so on. This model allows the building of integration and the practical implementation of coastal public policies. As it is largely based on scientific knowledge and assessment, it is favourable to science/management integration, which can therefore support the implementation of public policies. Theoretically, such a model can apply to the design and implementation of a quality-based policy (fig. 2).

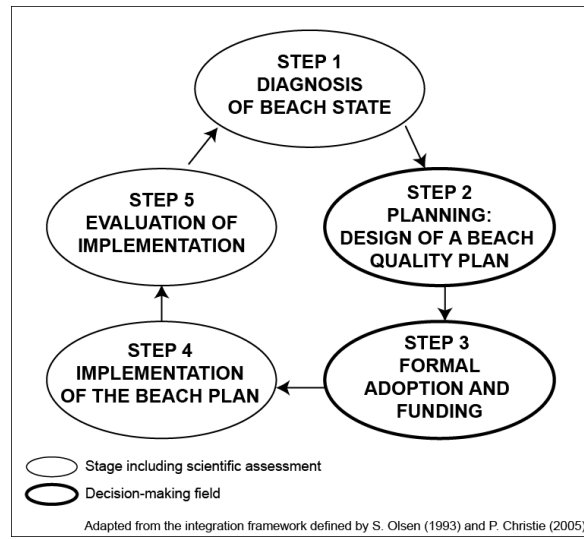
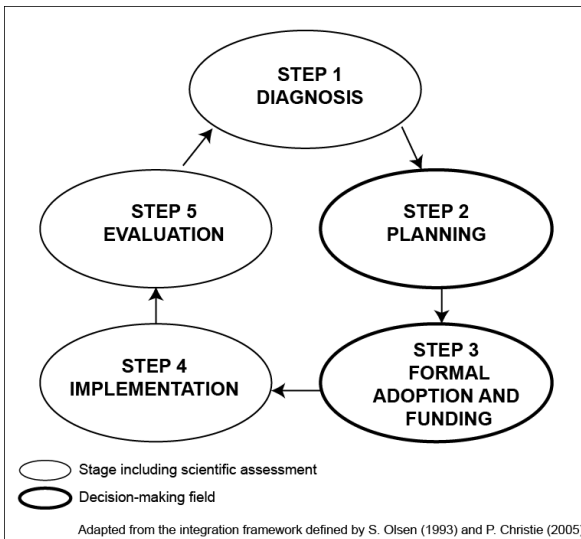


Fig. 1 - The ICZM building process: general model

Fig. 2 - Application of the ICZM model to a quality-based public policy

2. The Oléron Coastal Quality Action Plan (Atlantic coast of France) as a lever for ICZM implementation

To illustrate these observations using an actual trial, we will now present the building process behind the Oléron Coastal Quality policy (Charente-Maritime, Atlantic coast of France) by showing how it supports the implementation of ICZM. We will emphasize the importance of designing a long term territorial project to mobilize stakeholders.

2.1. Brief presentation of the study site: location, characteristics and main issues

Oléron Island is the largest island on the French Atlantic coast (175 km², 20,991 inhabitants in 2006). Since 1996, this island belongs to the Marennes Oléron District (MOD) comprising two communities of municipalities, the Community of Municipalities of Oléron Island (including its 8 municipalities) and that of the Marennes Basin (composed of 7 municipalities located on the mainland). It possesses 40 sandy beaches and both rocky and muddy foreshores that are favourable to crab and shellfish collecting (Fig. 3). The tourism industry has boomed here since the 1960s when a bridge was built that linked the island to the mainland. Since then, tourism and recreational activities have played an increasing role in the island's economic life (with a population doubling in summer), all the more as traditional activities (agriculture and fishing) have declined. Socioeconomic changes have led to rapid coastal urbanisation and marina development, which aggravated anthropogenic disturbances and ecosystems degradation. The main impacts of coastal development are currently the destabilization of coastal dunes, which has accelerated shoreline receding and exacerbated sediment management problems, the diminution of foreshores' resources, an increase in coastal waters pollution, particularly in popular bathing areas, a degradation of landscape quality and a loss of coastal heritage value.

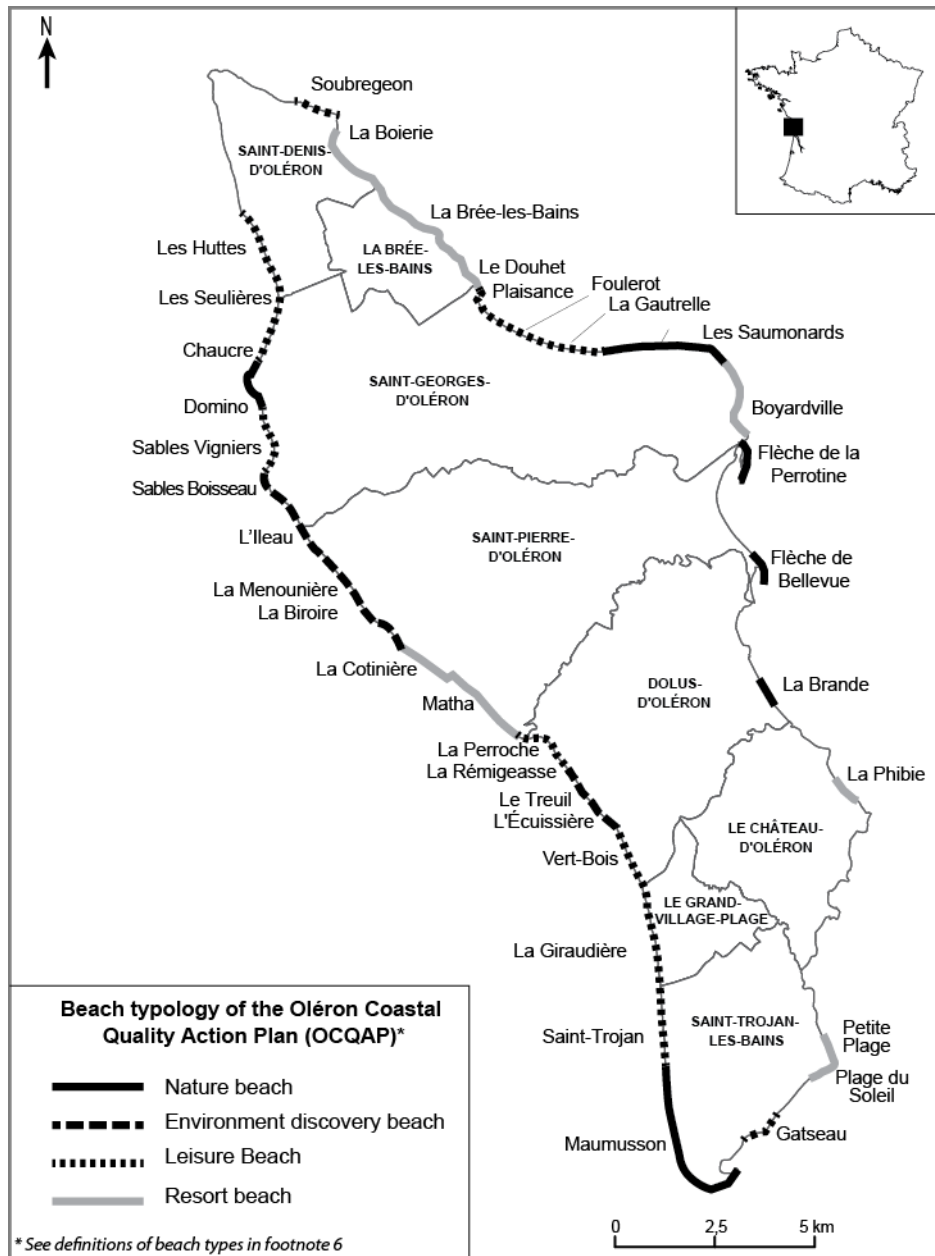


Fig. 3 - Oléron Island: location map and beach classification

2.2. Emergence of the Oléron Coastal Quality Action Plan as an ICZM project

The focus here is to analyze the conditions of emergence of the Oléron Coastal Quality Action Plan (OCQAP) as the Marennes Oléron District's (MOD) ICZM project.

From the early 2000s, the ICZM building process has been conducted by a unifying stakeholder, the MOD, on the basis of a coherent approach encouraging stakeholder participation. Two phases can be distinguished in this process, the adoption of planning documents including the OCQAP and its implementation as a first ICZM project (Fig. 4).

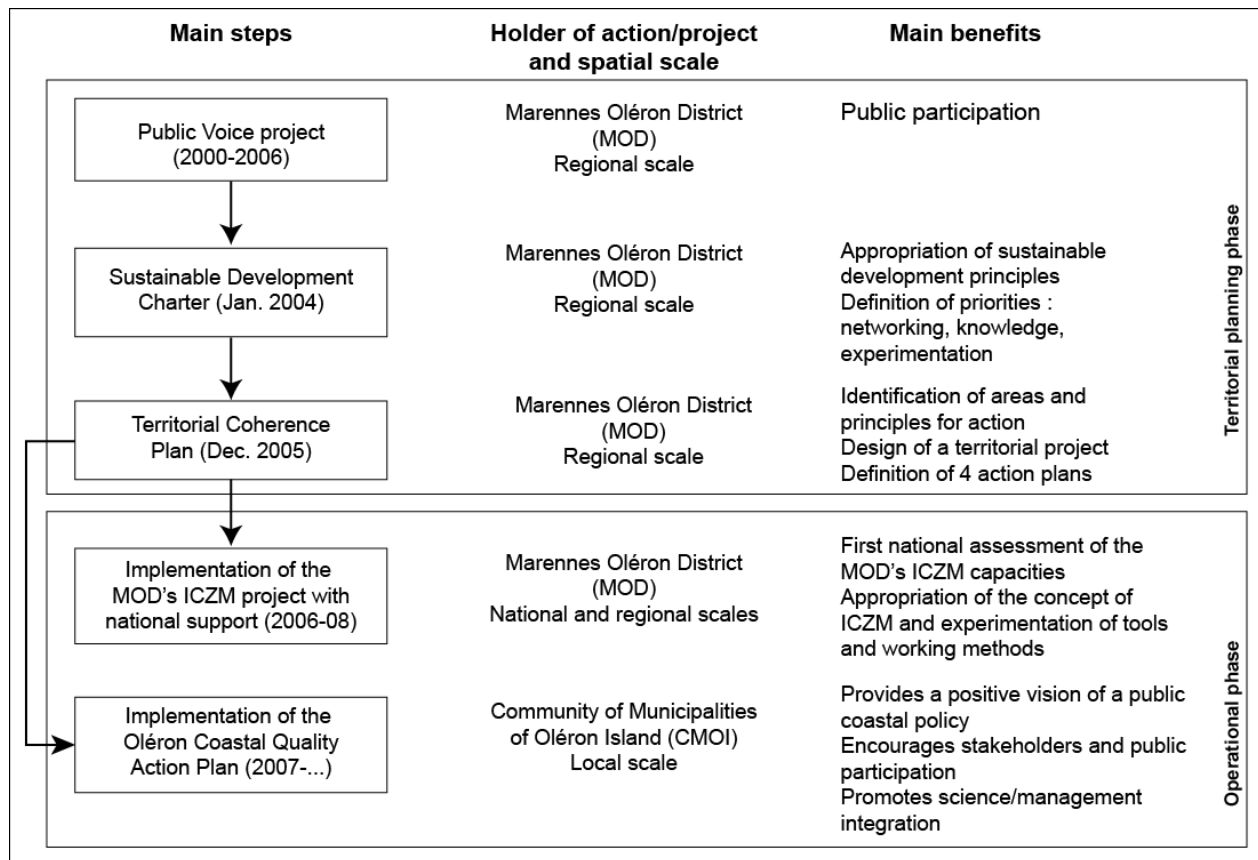


Fig. 4 - Planning process allowing ICZM building and implementation (Oléron Island, France)

The first action in the ICZM construction was the project “Public voice: action for responsible and cohesive development” (2000-2006) resulting in the adoption of the Sustainable Development Charter (SDC) in 2004, a reference document outlining the strategy for the territory for the next 15 years. The SDC sets out three objectives that constitute a reference framework for action: (1) Networking of stakeholders, projects and resources, (2) Developing knowledge and diagnoses, and (3) Making MOD a “laboratory” and “centre of excellence” for sustainable development. The associated strategic directions are: (A) The assertion of the MOD’s identity, poorly distinguished in a context of strong competition between neighbouring areas; (B) Making the territory more dynamic, since it has an aging population and is affected by the rural exodus and the marine and terrestrial cultural crises; (C) The development of economic activities throughout the year; (D) The preservation of landscape quality and balance between heritage value, economic activities and control of urbanisation.

Adopted in 2005, the Territorial Coherence Plan (*Schéma de Cohérence Territoriale*, SCOT) of the MOD identifies three main areas of action: (1) Natural areas, nuisances and risks, landscapes and heritage, (2) Habitat and economy, and (3) Transport. It reiterates the need to establish common principles, to build a shared vision of the territory and to instigate concerted efforts based on operational

action plans. The SCOT defines four action plans⁵ for the implementation of the territory project, including the OCQAP held by the Community of Municipalities of Oléron Island (CMOI). In order to support the development of SCOT and the implementation of the SDC, the MOD responded to the 2005 national call for ICZM projects, and subsequently, a national assessment was conducted that highlighted its strengths and weaknesses for implementing ICZM. Among its strengths were its coherence in terms of issues and management, its participatory experience and a systematic consideration of the principles of sustainable development. Its weaknesses included insufficient stakeholder networking due to the insufficient integration of government services into the projects and a lack of scientific participation.

From this starting point, the MOD's ICZM project and the OCQAP of the Community of Municipalities of Oléron Island developed firstly in parallel, the progress of one serving the interests of the other and vice versa. The implementation of the OCQAP has schematically undergone the five phases of the implementation of ICZM projects (Fig. 5). The first logically consisted of the completion of a detailed diagnosis that presents the characteristics, shortcomings and issues at the scale of each beach. This diagnosis included proposed actions for later integration into site redevelopment plans. The second phase was the development of a beach scheme (2005) that determines, based on an initial typology (*nature, recreation, discovery, resort*⁶), the strategic guidelines for development and environmental protection (Fig. 3). The third stage was the adoption of an operational action plan based on four elements: (1) The establishment of two committees, management and monitoring, the first providing an opportunity for exchange and to instigate major coordinated efforts, (2) The adoption of a Charter for beach development and protection, which contains all the required management techniques for each of four beach types (Fig. 3 and Table 1), (3) The adoption of consistent signage, and (4) The establishment of a public communication plan. The Charter, which forms the centre of this operational process, has been adopted in 2008. The fourth step is the implementation of the OCQAP on the ground, which began in early 2008, and the fifth the evaluation and monitoring of its implementation.

⁵ The three other selected action plans are the Landscape Plan, the Comprehensive Transport Plan and the Local Housing Programme.

⁶ These four types are defined as follows in the destination scheme for beaches: (1) "Nature" beach: very strong natural character, requiring conservation with a greater or lesser degree of access restriction, and with little or no facilities; (2) "Environment discovery" beach: of natural character, but does not necessarily require access limitation, few facilities; this type mainly includes rocky or muddy tidal flats; (3) "Leisure" beach: very busy, relatively remote from an urban centre and attracts all customer categories, with limited facilities, (4) "Resort" beach: near an urban centre and therefore benefiting from significant amenities, largely geared to families.

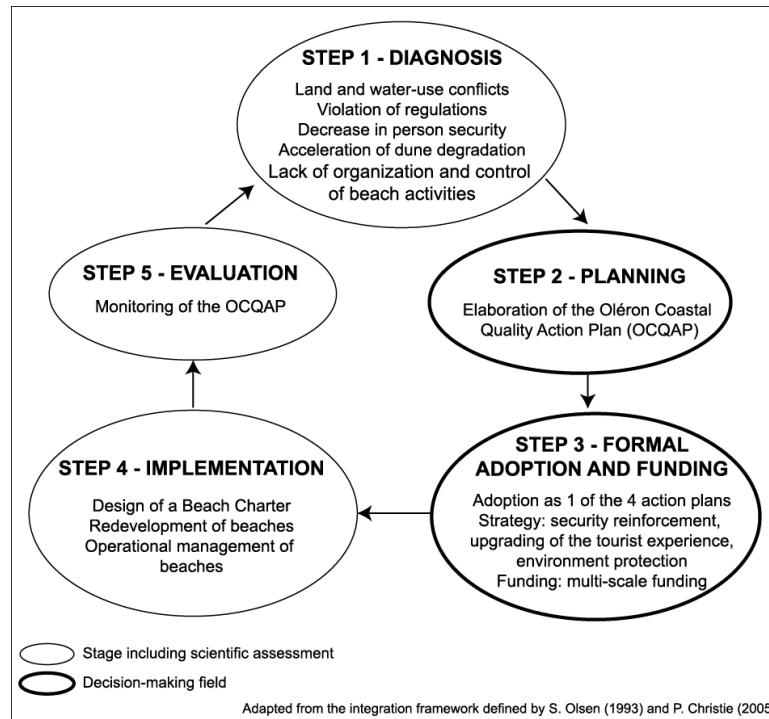


Fig. 5 - Steps in the implementation of the Oléron Coastal Quality Action Plan

The parallel realization of the MOD's ICZM project (2006-2008) has prepared the stakeholders for the implementation of the OCQAP by rallying them around a territory project and providing them with common principles and tools, that had hitherto been lacking, to engage operationally in coordinated development. This project was based on four components: (1) The dissemination of the concept of ICZM to stakeholders, the main benefits of which were its gradual and shared appropriation, and the establishment of common working methods; (2) The realization of a stakeholder survey for participation purposes as well as for re-appropriation and to rank in order of priority the territory's issues; (3) The launch of tools for knowledge sharing, such as a bibliographic database, a monitoring chart of issues and early indicators of sustainable development; (4) The development of sustainable tools to complement and evaluate projects, such as Coastal GIS and an Observatory for Sustainable Development. Thus, this ICZM project has helped mobilize stakeholders around a common operational mode and shared concepts, tools and issues. When the OCQAP was launched in late 2007, it directly benefited from these achievements. In return, at the time of the completion of its ICZM project (January 2008), the MOD found the CMOI, which conducted the OCQAP, to be an excellent successor for putting ICZM into practice, since the issue of tourist reception held a central place in its territory project. This handover and, more generally, the process described above, simultaneously show the consistency of the approach that has been engaged, a strong political will and a real capacity to mobilize stakeholders.

Beach type	Access	Planning objectives	Level of beach facilities												Cleanliness of beaches and dunes	Protection of beaches and dunes			
			General attributes						Special attributes										
			Reception			Security			Environmental protection		Wheel-chair access	Natu-rism	Dogs						
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				(9)			(10)	(11)	(12)
Nature	Limited	Little or no facilities	Yes	Yes	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Cleaning should be considered at the island scale and adapted to the nature of beaches	Protection from erosion should be adapted on a case by case basis	
Environment discovery	Controlled	Little facilities	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No			
Leisure	Controlled	Limited facilities	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No		
Resort	Open	Facilities integrated into the urban fabric	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No			

Table 1 – Summary of strategic directions for the beach destination scheme of the Oléron Island Beach Plan

(1) Signage; (2) Parking; (3) Toilets; (4) Showers; (5) Picnic; (6) Snack outlet; (7) Emergency station; (8) Emergency access; (9) Orientation symbols; (10) Beach markings; (11) Access markings; (12) Awareness raising panels.

2.3. Seeking science/management integration

A lack of scientific knowledge and analysis on the MOD, together with the lack of assistance to stakeholders from the scientific community in the implementation of public policies, had been identified as major shortcomings in 2004-2005. In this context, the MOD ICZM project was the starting point for the integration of researchers into the implementation of the territory project through the research programme QUALIBEACH that began in 2008 (Fig. 6). The realization of this programme includes two components. The first is theoretical and logically develops independently of the OCQAP. When applied, the second follows a process of coordinated production of data and an annual timetable including the needs of the territory's stakeholders. This flexibility is intrinsically required by the rules of OCQAP implementation since municipalities voluntarily submit applications to the Community of Municipalities of Oléron Island in the year in which they intend to redevelop their beaches. The participation of researchers in steering and managerial committees is therefore necessary, because it allows not only the monitoring of the OCQAP project implementation schedule, but also to have knowledge of the planning and management issues that are of concern to the stakeholders and to discuss with them how to address such issues. This process of coordinated efforts, that is innovative in the degree of flexibility that it requires from researchers, gives an experimental value to the QUALIBEACH research programme in terms of integrating science and management. It enables an understanding on how to work within the timescales, with the changing needs and, more generally, the stakeholder constraints.

This research programme consists of three phases that follow the complementary objectives of fundamental and applied research. The first (2008-2009) is a phase of data production, the second (2010) a development phase for management assistance tools, while the third (2011) is devoted to action directed towards the public (Fig. 6).

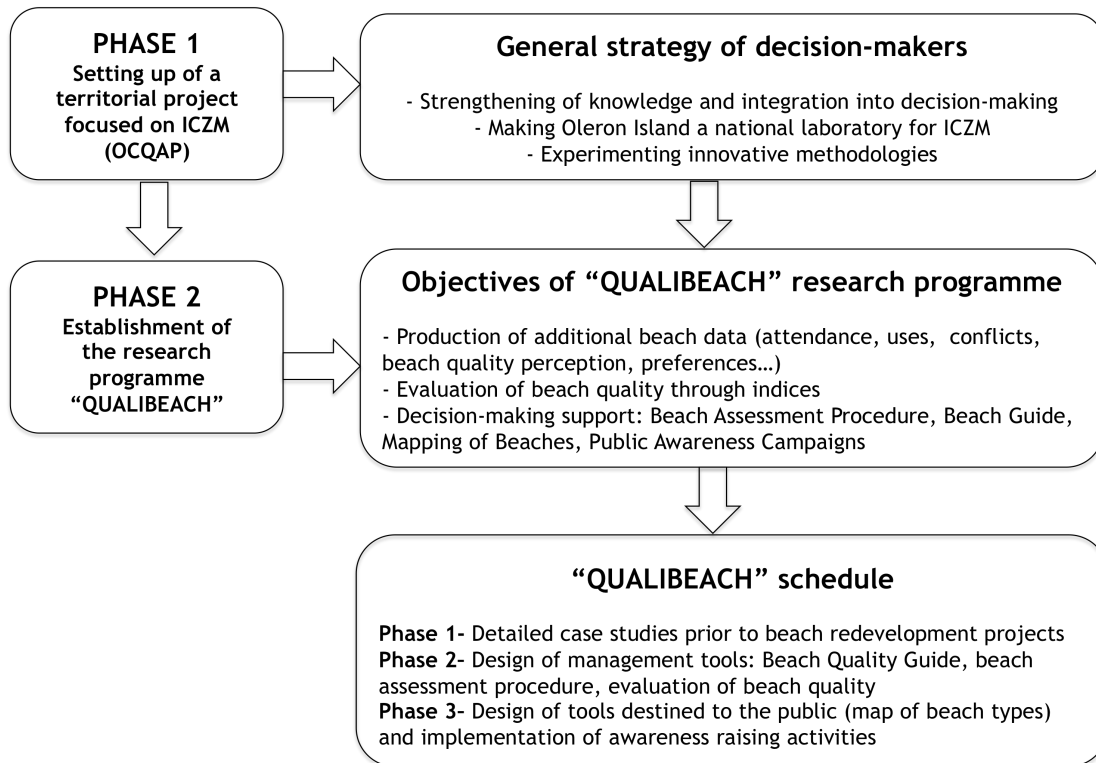


Fig. 6 - The collaborative process OCQAP-QUALIBEACH

In the QUALIBEACH research programme, there are three areas of study (Fig. 7). The first concerns the environmental quality, which is studied from three perspectives, physical quality (state of the beach-dune system), sanitary quality (pollution of bathing water and waste) and ecological quality (condition of habitats and species). The second deals with visitor reception quality, which is defined as meeting the expectations and preferences of users within the regulatory boundaries and reference frameworks set by stakeholders, in particular the Charter for beach development and protection. The third component involves what might be called "quality of place", which is based on: (1) The landscape quality, defined as "what is available to view", with components from natural and anthropogenic origin; (2) The quality of the conditions for tourism and leisure activities, which depends as much on natural factors, such as climatic or hydrodynamic, as on the facilities and security at the sites; (3) The quality of the ambiance, defined as "the material or moral atmosphere that surrounds a person or a group of people". These three inputs (environmental quality, reception quality, place quality) enable concepts such as heritage and identity to be addressed, which are identified in the territory project as structuring elements.

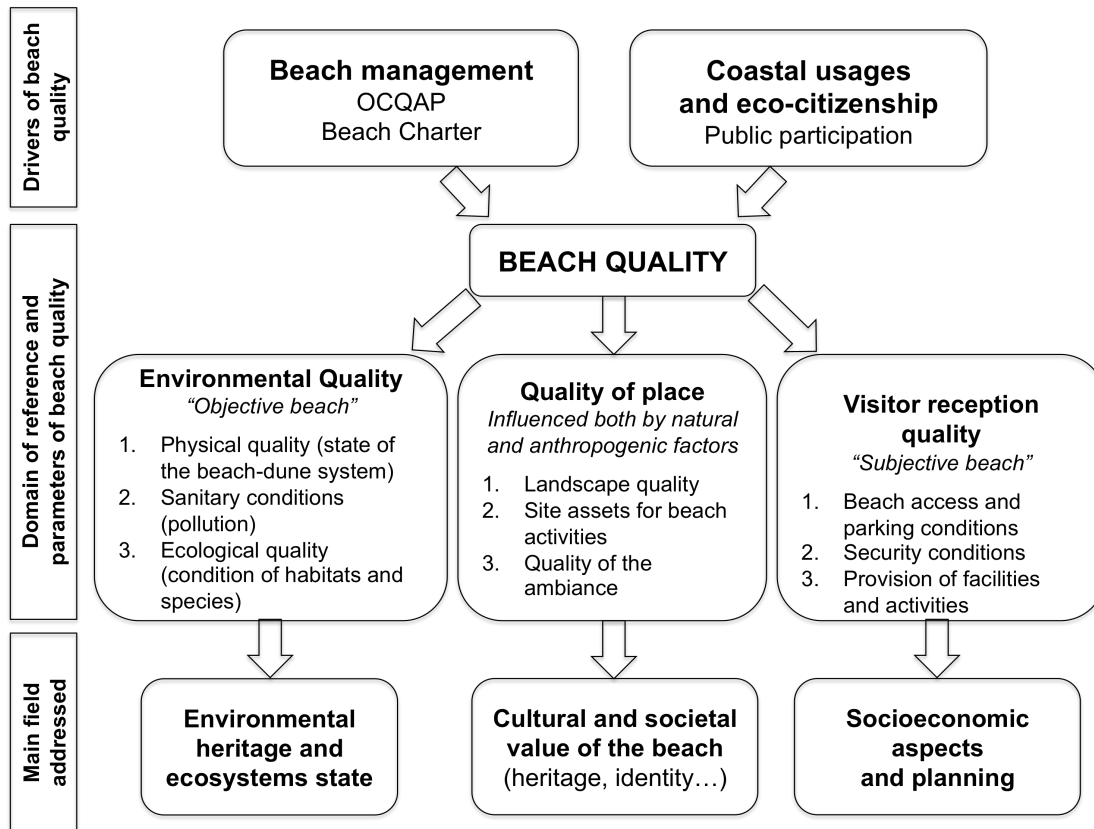


Fig. 7 - Synthesis of the methodological approach of the QUALIBEACH research programme

The methodologies deployed to address these different approaches to quality fall under the fields of environmental sciences (mainly geomorphology and ecology) and social sciences (geography and law, in particular). On the whole, the topics addressed and the methods used in QUALIBEACH research programme are similar to those described in previous works.

3. The central role of science/management integration in the realization of quality-based ICZM projects

From the example of the collaborative process developed in the OCQAP-QUALIBEACH experiment, we will now show in which way science/management integration can support both decision-making and coastal management, and thus contribute to ICZM implementation. This trial has demonstrated that science/management integration can bring key elements to the management process at three different stages: (1) before any decision is taken, in the initial phase of beach development plan design, (2) during the realization of the OCQAP, and (3) after the realization of the OCQAP.

3.1. Supporting the decision-making process by providing knowledge for beach plan design

In 2008-2009, detailed studies were conducted on the main beaches of Oléron Island (Saint-Trojan, Boyardville, Les Saumonards, La Giraudière, Les Huttes, La Seulière, Sables Vignier, La Perroche, La

Rémigeasse, Gatseau, La Brée-les-Bains) to provide decision-makers with the knowledge required for designing integrated beach plans. Before these works, there were limited scientific data on which to base decision-making and coastal management, as the existing knowledge only dealt with shoreline receding, shellfish and crab gathering, and water pollution and waste. There were no data on socio-cultural aspects. As a consequence, the main topics addressed in those case studies are beach users origin, beach attendance, beach activities, usage conflicts, use of site amenities, problems (environmental degradation, violation of law, illegal parking, dangers...), beach user expectations, perceptions and preferences, eco-citizenship, transport method used to come to the beach, etc...

The example of la Giraudière Beach will be briefly developed here to illustrate both the type of results obtained and the way in which scientific knowledge is used for decision-making. Located on the southwest coast of Oléron Island (Fig. 3), La Giraudière beach is part of the vast Saint-Trojan sand dunes, which belongs to the private state domain, managed by the National Forests Office (NFB). Since it is very popular (3,724 visitors in summer peak hours) and also falls within in a site that is protected by various regulatory standards (Site of Community Interest within the Natura 2000 network, ZNIEFF – natural area of ecology, fauna and flora interest – I and II), this beach has been classified in the “leisure” category of the Beach Plan, which allows limited developments to take place. The rapid erosion that affects it threatens to destroy the parking area. Dune receding is reducing the beach’s accessibility while the lowering of the foreshore forces users to retreat to the dunes at high tide, accelerating their destruction, and could even jeopardize the popular practice of land sailing as the rocky substrate replaces the beach.

In this context, the municipality has applied for the site to be redeveloped. The plan includes relocation of the car park into the wooded dune to protect it from erosion, with a simultaneous development of public transport to maintain beach accessibility, as well as the consolidation of reception facilities (club activities, sanitary facilities...) onto a dedicated platform. The high exposure of the coast to swell means that measures against erosion cannot be considered.

In the establishment phase of this redevelopment plan, the stakeholders wanted a study to be conducted in order to: (1) Characterize beach users in quantitative and qualitative terms to take into account their number and profiles in the site reorganization; (2) Collect their views on the plan and more specifically on the available options in terms of parking and transportation; (3) Identify problems (usage conflicts, environmental degradation...) in order to implement solutions within the overall site redevelopment. Different methodologies were implemented to produce the required data: (1) Campaigns to count vehicles (at the site’s entrance) and users (on the beach) at peak hours (4-5 pm between 15/07 and 15/08); (2) A survey of 418 people, with residents and tourists equally represented in the interviewed sample; (3) Conduction of interviews with professionals (lifeguards, instructors of activity clubs, snack outlet employees); (4) The collection of additional data in situ (vehicle origin, applied regulations, nature and location of facilities...).

The results obtained (Tables 2 and 3) show that: (1) A significant proportion of users already use “clean” transport to get to this site; (2) 78% of users would be happy for the car park to be moved and state that they are in favour of the use of shuttle buses or bicycles to get from the parking area to the

beach; (3) The main problems raised (illegal parking, clashes between pedestrians and cyclists, usage conflicts, particularly in the coastal marine area) can be solved by site reorganization; (4) Tourist and resident judgements and expectations are similar, which means that envisaged planning efforts will satisfy both of these user categories.

Criteria	Results	
Frequmentation	<p>Peak hours (5 pm): 3,724 pers. Peak days: 5,422 pers.</p> <p>Visitor category: 54% tourists (including 62% who stay in nearby villages), 24% day trippers, 15% second home residents and 7% permanent residents.</p> <p>Dominant groups: families and/or friends: 61%; adult with young child(ren): 20%; lone adult: 17%; others: 2%.</p> <p>Beach facilities (% of cells bringing...): beach chairs: 6.2%; parasol: 20.9%; surfboards: 2.5%; body board: 44.4%.</p> <p>Distribution of users in peak hours at low tide: 40% on dry beach, 18% on wet beach, 18% in the dune, 16% in the swimming area and 8% in the surfing area.</p> <p>Main activities declared by users: Rest and sunbathing: 36%; swimming: 31%; walk and chat with family and friends: 9%; beach games: 8%; water sports: 7%; shellfish foraging and nature observation: 5%; picnic: 4%.</p>	
Reasons for choice of beach	<p>Nature/environment: 35%; near the place of residence: 26%; sport activities: 14%; Accessibility: 11%.</p>	
Transport method used	<p>Motorized vehicles (mainly cars): 62% (3,324 pers.); bicycles: 18% (980 pers.); walking: 13% (723 pers.); tourist train: 6% (350 pers.); motorbike: 1% (45 pers.).</p>	
Appreciation of beach quality	<p>Opinion of tourists, second home residents and day trippers:</p> <p>Excellent: 13%; good: 65%; average: 21%; bad: 1%</p>	<p>Opinion of main residents:</p> <p>Excellent: 8%; good: 75%; average: 17%; bad: /</p>

Table 2 – Summary of the main results of the case study carried out on la Giraudière beach (southwest coast of Oléron Island) in summer 2009.

Note: the term cell refers to a “group” composed of a family and/or friends, an adult with young child(ren), a lone adult, 2 or 3 adults, a teenager or group of teenagers, or a retired person or couple. This typology forms the basis of all surveys made at the entrance to the beaches to characterize the user profiles, in addition to information collected within the framework of the surveys.

Problem	Cause
Waste : overflow of bin located at beach entrance; waste accumulation in the dune	Lack of use of other bins on the site; waste washed up by the waves and waste left by users; users occupying the dunes
Dune degradation : dune erosion and fragmentation	Intense marine and wind erosion; use of quad bikes in the dunes; trail development in the dunes; users occupying the dunes, especially during the summer, at high tide
Parking : illegal parking along the access road, on the emergency parking spaces and on the NFB forest roads: 45% of bikes parked outside bike parks	There are fewer parking spaces than number of vehicles; non-compliance; inappropriate location of bike park
Security : dangerous path to the beach (risk of falling); lack of security on the beach and in the coastal marine area	Slippery duckboard; poor location of the rescue station; parking of vehicles on rescuer’s parking spaces; lack of user information
Usage conflicts in bathing area : 10% of users say they have had conflicts with other users	Lack of information on activity zoning; lack of buffer space between the swimming area and the area reserved for water sports

Table 3 – Main problems identified at la Giraudière beach (southwest coast of Oléron Island).

The obtained results supported the development proposals (for example, relocation of the car and bicycle parking areas), showing the stakeholders that the public is not necessarily resistant to major change. They also highlighted the fact that the needs in terms of accessibility of certain user categories (surfers, families with young children, elderly people) should be more considered. The results also encouraged the Community of municipalities to choose this site to test a bus service to the beaches during the summer of 2010 in the framework of the implementation of the Comprehensive Transportation Plan.

3.2. Assessing OCQAP implementation in the field

Two kinds of assessments were conducted in the field to evaluate OCQAP implementation. The first consisted in post-development satisfaction studies and the second in the evaluation of site development models. Two examples are given below as well as the way in which results were taken into account for beach plan design.

Until now, two beach redevelopment plans have been achieved, at La Brée-les-Bains and La Rémigeasse (Fig. 3). The example of the latter is presented here. The beach of Brée-les-Bains adjoins the village of the same name, which is located on the northeast side of Oléron Island, relatively sheltered from the swells and prevailing winds. This is the first beach to have undergone a comprehensive redevelopment plan since the launch of OCQAP. This plan mainly involved raising the standards of all facilities to the levels required by the Charter for beach development and protection (first aid station, toilets, bins...). In this context, a study was conducted in July 2009 to obtain user feedback on realized developments and to determine whether beach users were favourable or not towards the strengthening of its urban nature through the development of a promenade and seaside entertainment. Another part of the study aimed to assess the relevance of the policy to diversify the range of beaches available, which endeavours to satisfy users who are assumed to be diverse and have different expectations from one beach type to another. This case study established that 89% of beach users were satisfied with the redevelopment carried out to meet the Charter requirements. It also showed that the summer clientele of this beach includes 75% of regulars who have been visiting it for 10 to 15 years. Tourists accounted for 61% of the overall number of users, and secondary residents represented 36%. The clientele appeared to have high expectations regarding the reception quality, admitting disappointment by the closure of the children's club in 2009, and strongly criticizing the municipality for not removing algae accumulations on the foreshore. Furthermore, these regular users have an attachment to the beach in its present state, so opinions are sharply divided regarding the project to strengthen the urban aspect of the site: 60% of users would like more entertainment on site, while 50% support the pedestrianization of the beach edge, against respectively 36% and 42% who were opposed to these ideas. These results have reinforced the position of the mayor, who did not wish to undertake major redevelopment of the waterfront, and brought about the abandonment of this project. The surveys carried out on this site have therefore shown that changes

envisaged by the local authorities in respect to improvements may, in some cases, not win public support. They therefore illustrate the need to take account of the “sense of place”, i.e. user perceptions.

QUALIBEACH has also assisted practitioners with the definition of beach models, which play a crucial role in integrated beach management implementation (Botero and Hurtado, 2009). The objectives were, firstly, to determine to what extent a given development model fulfils public expectations in order to derive a typical development plan for each of the four beach categories, and secondly, to verify the functionality of the practitioner-conceived development plans. Two development models have so far been subject to evaluation: a “resort” beach model (in reference to the typology of the beach destination scheme, see Fig. 3 and Table 1), where the beach is incorporated into the village and is therefore well equipped with facilities and services; and a “leisure” beach model. Surveys were carried out on beaches that fit these two models, respectively, in La Boierie (Saint-Denis) and Gatseau (Saint-Trojan-les-Bains) (Fig. 3), which are the most representative examples of each of these two beach types⁷. The evaluation results show that the public is generally satisfied with the development of these two sites, indicating that the OCQAP, which plans fairly similar developments, meets visitor expectations. This assessment has therefore enabled, through a participatory process, the validation of planning choices in advance of the design of redevelopment plans, which guarantees public support for OCQAP.

3.3. Developing a tool for monitoring beach quality improvement in the long term

The QUALIBEACH programme also contributes to the implementation of ICZM through the production of tools to provide management assistance. The main one is the *Guidebook for beach quality* (Duvat and Mossot, in press). Its design is adapted to the scale at which decisions will be applied, municipalities⁸, and the priorities of stakeholders who distinguish “main” and “secondary” beaches⁹. The guide directly addresses the needs of practitioners in its general organization, based on a per-site approach which puts the beach into its territorial context, taking into account the different spatial entities which occur between the land and the sea (access road, dune, beach, bathing area, sailing and surfing zone). Its first function is to act as a knowledge-sharing tool by providing stakeholders with all of the data produced in the framework of the QUALIBEACH programme. This shared inventory should encourage, according to the stakeholders¹⁰, decision-making and the resolution of disputes that block the decision-making process and delay the implementation of certain beach redevelopment plans. The guide will also serve as a tool for

⁷ Development here has not been carried out within the OCQAP framework but by the municipality of Saint-Denis for the la Boierie beach and by the National Forestry Office for the Gatseau beach. However, development choices are very close to OCQAP Charter requirements, hence the value in examining these development models to assist with this action plan.

⁸ Municipalities play a major role in beach management. While some tasks fall within the competence of the Community of Municipalities (cleaning beaches, lifeguard recruitment) the majority of decisions are the responsibility of mayors and are reported to the public by municipal decree (e.g., authorized practices, activity zoning, modalities and hours of supervised swimming).

⁹ The “main” beaches differ from “secondary” beaches by better accessibility and a better standard of facilities. They all have a lifeguard post.

¹⁰ Interviews were conducted with all stakeholders involved in coastal management (mayors, decentralized services of the State, Regional, Departmental, National Forestry Office, Coastal Protection Agency, etc.) to obtain their opinions firstly on the value of such a guide, secondly on its content.

evaluating the OCQAP; and it has a specific section addressing development compliance with the Charter for beach development and protection, site functionality (planning effort and management) and usage patterns (visitor usage and “citizen effort”). The fact that the guide was developed and validated in coordination with stakeholders has enabled not only stakeholder integration into the development process for operational purposes, but also to initiate a process of appropriation that will be valuable for facilitating its use. This guidance approach should encourage mayors, in particular, to continue their efforts to improve beach quality in their municipalities. The inclusion in this guide of the evaluation results of all beaches should foster experience exchange and the transfer of proven solutions. This tool should enable all parties to strengthen their management capacity. Finally, it should contribute to the implementation of overall sustainable development strategy for MOD. The mayors, the CMOI and other coastal managers will participate in the guide’s annual update, which will enable it to develop from an evaluation approach to a monitoring process, which is necessary to enable adequate decisions to be made in the long term.

Conclusion

The follow up and analysis of the implementation of the OCQAP as an ICZM project has confirmed the theoretical assertions exposed in the first part of this article. From the example of the OCQAP, we have demonstrated that quality-based public policies can be conducive to ICZM implementation, firstly because their design and implementation can easily follow the integration building process required by ICZM, supporting institutional, sectoral, spatial and temporal integration; secondly, because they are favourable to the establishment of development and management plans at a territorial scale of suitable dimension on the basis of shared issues; and thirdly, because they provide a positive and dynamic vision of a territorial project, which can gather together all the stakeholders, from decision-makers to coastal users, to build a common project. The analysis of the emergence of the OCQAP as an ICZM project has also highlighted the importance of the initial phase of planning building, design of a territorial project, concept and working methods sharing, to implement with success integrated management in the subsequent operational phase.

The major role of science/management integration in the implementation of ICZM projects has been largely developed in this paper, as research can all together contribute towards the building of *(i)* a comprehensive view of coastal issues, *(ii)* a common knowledge and databases facilitating decision-making and management, *(iii)* methods for the assessment and monitoring of both quality and quality-based policies, *(iv)* public participation through surveys, post-development satisfaction studies, eco-citizenship strengthening and awareness raising activities.

In addition, this experience has enabled the reaffirmation of the conditions required for effective ICZM implementation. The first is the high mobilization and continuing involvement of decision-makers, both elected and administrative officials, to develop a comprehensive territorial project, translate it into action plans and to achieve it. Secondly, it is necessary that all practitioners, representing the various territorial scales, find their place so that the project can rely on the complementarity of their levels of intervention. In addition, the project holder, here the MOD, must have an uncontested legitimacy to lead the project, and

the necessary fundraising capacity and human resources for its realisation, and be placed at an operational interface for its practical implementation.

In France, the experience presented in this article is innovative, whether regarding the large field covered, the scientific approach that it enabled to develop, and the high level of science/management integration it is based on.

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