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## Some hints on the risk of failing in ICZM

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### Abstract

The risk of failing in ICZM is it only due to increasing anthropogenic pressures in the coastal environment? Based on the example of Reunion Island and other French overseas region, the view expressed here is that the main risk results from the lack of structure in ICZM. First in the arena of public authorities acting on the coast. Second among private actors and between public authorities and private actors. The integration between public actors is driven by coastal planning schemes but it does not work as hoped. Thus, the daily management of coastal activities remains sectoral. Local politicians are often wary of the concept of ICZM which they see as top down concept. The relationships between the authorities and local stakeholders dealing with coastal management are usually driven by rules. But often the enforcement is weak, due to a bad acceptability of these rules by the local stakeholders. To improve the situation, the establishment of bodies for dialogue and consultation between the public authorities and local stakeholders is requested. In a more realistic way, collecting indicators devoted to social acceptability could be a first improvement. The establishment of a body dealing with the information sharing, including indicators, among the public authorities could be a second step. Thus, the integrated information management is a prerequisite to ICZM. Avoiding this rule may expose to major failure in ICZM.

Keywords: ICZM, information management, stakeholders involvement, social acceptability, Reunion Island

### Introduction

The integrated coastal zone management (ICZM) is a new concept. It appears for the first time as an administrative document in 1972 when the Coastal Zone Management Act is published in the United States. Its use will increase over the next 20 years (Godschalk, 1992). In 1992, Agenda 21 urges countries to implement ICZM (Strong, 1992). Since then, the literature on the subject (Cicin-Sain and Knecht, 1998; Dauvin, 2002) and methodological guides have proliferated. Most major international agencies working in the fields of development or environment have produced their own guide: OECD (1993), World Bank (1998), UNEP (2001), UNESCO (Henocque *et al.* 1997, 2001, IOC, 2005). During the same time, the feedback on ICZM programs conducted in various countries around the world have also increased (Sorensen, 1997; Henocque, 2006, McKenna *et al.*, 2008). Today, as outlined by Billé (2006), ICZM is the central paradigm of sustainable development of coasts through the entire planet. Due to the amount of knowledge, both theoretical and applied, which has been gained since the early 1990s, ICZM is now probably the most knowledgeable concept of environmental management.

In this context, it is paradoxical that a) this conference puts forward the risk of failing in ICZM and b) the introduction of this session on ICZM stresses that « tools are needed to effectively assist in the decision making processes ». The knowledge available would not be sufficient? Or they fail to be generic enough? Unless coastlines have dramatically changed in recent years as suggested by the introduction of this session. Anthropogenic pressures would thus be intensified and more complex with new actors such as industries and new uses, including recreational types. But can this complexity and intensification of pressures on the coast explain the increasing risk of failing in ICZM ?

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Answering *Yes* means that guides and books dealing with ICZM are obsolete or do not fit with the groundtruthing. Such a position is hardly tenable. New pressures and complexity on the coast are not big enough a) to drive to obsolescence what has been written before and b) to radically alter the dynamics of ICZM.

Answering *No* leads to seeking the causes of risk of failing in ICZM in the dynamics of the past, knowing that increased pressures and complexity on the coast could increase this risk. The question of the relevance and generic knowledge mobilized by scientists on ICZM is then raised again since clearly this knowledge was not sufficient to lead to successful public or private actions in the field of ICZM.

The question is less about the information content as a) how this information is driven to the ICZM stakeholders and shared by them, b) on the form it takes for them to use in the ICZM process, c) the transition from information to action. Based on the example of Reunion Island and other French overseas regions, the view here expressed is that the main risk of failing in ICZM results from the lack of structures for a) integrated management of the information and b) coordinating the actions of various stakeholders. First, in the arena of public authorities acting on the coast. Second, among private actors and then between public authorities and private actors. But before developing these points, we come back on the relationship between information management and driving ICZM.

### 1. Driving the coastal zone and the integrated information management

System approach has proved particularly fruitful for conceptualizing ICZM (Henocque et al., 1997, 2001). However it leads to simplifications, which are sources of misunderstanding of what ICZM is. The main one deals with the notion of driving the coastal system. Spontaneously come to mind the image of a car driven by his driver. This image is misleading because it leads to think ICZM as an ongoing process and centralized in the hands of a single management structure that would act on a homogeneous space over time (Figure 1a). But in the real world, for a given coastal area, there is no integrated management over the long term, but coastal management projects, integrated or not integrated, which succeed in time. Each can be carried by different players and only affect a portion of the coastal area (Figure 1b). In the long term, managing this space is more akin to a process without a pilot, an autonomous management without manager, as outlined by Billé (2006).

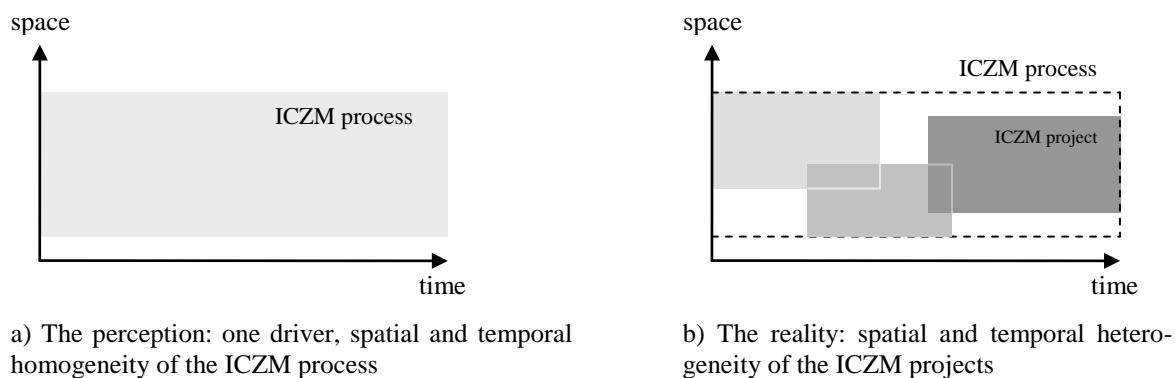
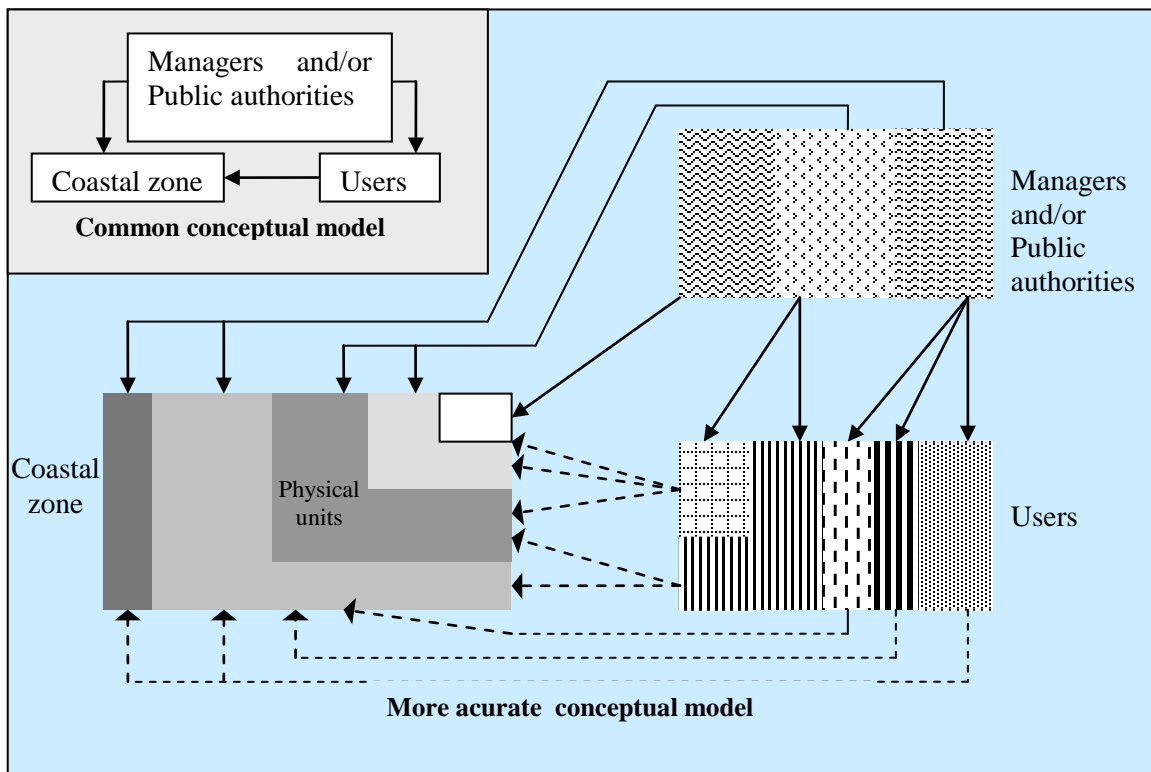


Figure 1 – The coastal system driver perception and the reality of ICZM

Misunderstandings can also occur at the ICZM project scale. The image of driving the coastal system leads to a simplified design which erase a) the diversity of people in charge of the management of a part of the coastal system, the diversity of users and the heterogeneity of the area to be managed. This area consists of physical units (seascape and landscape units), each of them may carry several uses and be management by several public authorities or private bodies (Figure 2).



**Figure 2 – the conceptual models dealing with the coastal zone driving**

In fact, to ensure that these projects lead to better management of the coastal system, it is necessary to ensure their coordination over a span of time exceeding the duration of each ICZM project (usually 4-5 years). It is also necessary to ensure the coordination of actors involved in each project. Thus, managing the coastal system through ICZM projects is a question of coordinating these projects and also coordinating the stakeholders actions in each of them.

This coordination can be carried out in a direct way and in a centralized framework. A steering structure for management is then setting up with the objective of coordinating all actions for coastal management and for regulation of the coastal uses. The information management is then subordinate to that goal and also organized in a centralized framework. The steering structure for management drives the gathering and synthesis of information in order to assist its coordination actions. In this context, the success or failure of management actions will depend on a) the effectiveness of the steering structure for management to mobilize this information for the coordination task, b) the effectiveness of that coordination between the coastal management projects and between the actors who implement them.

This coordination can also be carried out in an indirect way and in a decentralized framework in order to disseminate and share information between actors. In this context, the success or failure of management actions will depend on the effectiveness of the information management.

## **2. The risk of failing ICZM versus public authorities and coastal managers**

### Some general considerations

Having both a marine and terrestrial component, the coastal areas of the French overseas regions are not a real administrative space with specific limits and specific regulation. The Coastal Act (loi littorale) is the single administrative document of national jurisdiction that recognizes the coastal zone as an area with specific problems which need to be solved by some specific regulations. Outside of that Act, according to an administrative standpoint coastal areas are an area of interface. Their land lies partly in the space 1) of one or more municipalities, 2) of one or more associations of municipalities (called “communities of municipalities”), 3) of a department, 4) of a region, 5) of the French state and 6) of Europe. At each spatial level corresponds a specific institutional level. The coastal area of the coastal zone is included in the territorial sea and sometimes in inland waters. As such, it is in the public maritime domain and it is managed by the State. As member of these different jurisdictions, without itself being recognized as a specific space (with the exception of the Coastal Act), the coastal zone is the receptacle of a multitude of sectoral policies for which it is only a space for application.

In this context, any coastal zone management begins with the coordination of sectoral policies, so they can act synergistically to improve efficiency of public spending in the service of coastal management. Because the number of institutions acting at each spatial level and the number of these levels (6), it is unrealistic to expect an informal coordination. On the one hand, each administration and technical service has its own culture and administrative practice, thus collaborations are rare among these bodies. On the other hand, coastal management is not among the priority objectives of any technical service or administration. In the aim to work together for a common goal, which is coastal management, an apprenticeship under the guidance of experts is required. The coordination of sectoral policies therefore requires the setting up of a steering structure for management that will serve as manager of the coastal zone.

At what spatial and institutional levels create such a structure? What form should it take? Clearly, the space for administrative intervention in the steering structure for management can not be inferior in size to the coastal zone to be managed. Conversely, there can not be 100 times higher. That is why the coordination structure can not work at the municipality level (too small) neither to the State level (too big), let alone Europe. In a medium sized island as are Martinique, Guadeloupe, Reunion, Mayotte, the island is clearly a good choice to set up the ICZM coordination and management structure, because the island is the biggest biophysics unit for ICZM projects implementation.

### The implementation of an ICZM facilitating body : the example of Reunion Island

According to an administrative and institutional standpoint, Reunion Island is both a department and a region. A first steering structure for ICZM was created in 1992. Called LOCE (Local Cell for Environment), this structure was common to DIREN (representing the

State), to the Regional council and to the Departmental council. Aiming to coordinate environmental policies, LOCE has introduced the concept of ICZM in the island and has organized a symposium in 1999 to increase environmental awareness among elected people, especially at the municipality level. This awareness has resulted in failure. The local councillors have not embraced the concept of ICZM and the two pilot ICZM projects that were planned in the short term have not been carried out. Following this failure and internal problems, the LOCE has ceased to exist in late 1999.

This stop could have meant the end of ICZM in Reunion Island but the creation of IFRECOR (French Initiative for Coral Reefs) enabled DIREN in 2000 to reprise the role of LOCE for setting up and coordinating ICZM projects. An excellent job of diagnosing problems threatening the coastal zone has been achieved, but the actions designed to solve these problems have not been implemented because of the lack of support from local councillors. In 2004, the Regional council has taken hold of ICZM and has created a position of special adviser in this area. In 2006, in response to a request from the French government, a demonstration project of ICZM has been launched by the Regional council in the context of the regional Agenda 21. The team of consultants appointed for this task has put the emphasis on a diagnosis of the coastal zone to be managed, but nothing in terms of ICZM implementation on the field. Relations have deteriorated with the Regional council, disappointed with this service. Finally, nothing concrete has come out of this project. In 2007, the ICZM special adviser left the Regional council and since then neither the DIREN, neither the department nor the region focuses on ICZM.

#### How to explain these failures ?

All ICZM projects driven by CLOE or DIREN were designed at the municipality level. Unfortunately both CLOE and DIREN have met with the indifference of local councillors. In view of the prerogatives attached to the mayors on urban planning, sanitation and police, any ICZM project has little chance of success without the consent and support of local councillors. Until now they have little interest focused on ICZM they perceive as a top-down process initiated by institutions outside the island: the French state or Europe, or international NGOs and relayed by scientists. They have a poor image of researchers working on ICZM and claiming to develop applied procedures devoted to decision support. They see this type of research as a sweet dream of an intellectual. They know that the temporal framework of research is very different from theirs. They take decisions everyday and most of the time without the support of scientific knowledge. If it could be mobilized quickly and in a simple form, they would probably adhere to the concept of scientific knowledge as decision support. But collecting and analyzing information which assist the decision making usually take several months or even years. In this context, it is not surprising that ICZM remains for most local councillors a matter that is foreign and useless to them !

Without active support of local councillors towards ICZM, it was unrealistic to begin a demonstration project and to set up a structure devoted to the coordination of public actions. Without demand at the local level, any ICZM project is driven to failure. This is the first observation that can be drawn from the example of Reunion Island. In this context, any steering structure of ICZM which is established inherits two objectives: first initiate the process of ICZM and in a second time coordinate the actions of public actors. The example of Reunion Island shows that three pitfalls must be avoided in this area:

- a) Initiate a process of ICZM by simply mobilizing funding which will be allocated to a project leader who will be free to spend it according to his mind. Therefore, the

probability is large that the project leader will limit his job to draw a simple diagnosis of the coastal zone to manage. Initiating a process of ICZM requires a co-construction of ICZM demand with local councillors and key technical services and administrations operating on the coast (Antona et al, 2007, David et al. 2009). The steering structure is therefore heavily involved in the process, which means it consists of several qualified people. The least it can do is establish a very precise specifications and terms of reference, but it seems preferable to go beyond towards the pilot and co-construction of the demand, provided that its legitimacy to do so is recognized by all stakeholders.

- b) The second pitfall to avoid is indeed involved in local politics, even reluctantly. In Reunion Island, the municipalities of the reef coast (the most interesting for ICZM) are all governed by the conservatives, and the Regional council is governed by the communist party. In this context, any initiative by the Regional council to establish an ICZM project on this coast is seen as a maneuver policy to interfere in the lives of coastal communities. It is therefore not surprising that the ICZM demonstration projects that were to be implemented on this coast in 1999 and 2006 have not emerged. In 2006, realizing this political antagonism, the consulting firm commissioned to launch this project preferred to settle for a mobilization of knowledge through a diagnosis of territory rather than engage in action at the risk of failure and not be completely paid by the project sponsor: the Regional council. How to avoid this pitfall? A solution could be to set up the ICZM at an institutional level below the department and the region: here the community of municipalities. At this level, leftist mayors and conservative mayors learn to work together for the good of their municipalities. They leave their political quarrels to an arena located at a higher institutional level : the Departmental council or the Regional council. Without steering structure competent and independent politically, while ICZM project is doomed to failure, this may be the second conclusion to be drawn from the example of Reunion Island.

Any draft ICZM requires each party to provide data. From the flow of information depends in large part the success of the project. But the ICZM steering structure must not appear only as an applicant for data receiving but also as an information provider or as a facilitator of management information to help municipalities to develop effective tools of distributed Web. These tools will be essential to the success of the project but they can also be used by municipalities or communities of municipalities for other purposes as ICZM. It is a win win context. The information management stands at a key position in the ICZM steering. This may be the third conclusion to be drawn from the example of Reunion Island.

Essential regarding ICZM seen from the public authorities and managers, the latter finding will be even more crucial with regard to ICZM seen from private stakeholders.

### **3. The risk of failing versus private stakeholders**

If public authorities are very heterogeneous and are reluctant to coordinate their actions, due to the sectoral organization of administration, what about private stakeholders?

They show greater heterogeneity. Some are members of the economic sphere. These are businesses and their employees who work in the coastal zone or who have an effect on the coast, although they are located beyond. The others are members of the social sphere and are called *local population*. This term encompasses two groups of actors: first, residents of the coast who actually are coastal users and secondly, users who are not residents. In the Reunion

Island as in all the French overseas regions, these people are poorly structured. Just a few of them are involved in trade unions or associations of users. Some uses of the coastal zone have no users representations.

This diversity and the weak organization of actors explain that each of them see himself as the exclusive user of the coastal zone and pay scant attention to the impact of its use in the coastal environment and the possible deterioration of the quality of service to others users in this environment. A knowledge test on the health status of the reef, including presentation of photographs of coral habitats with varying degrees of degradation, has shown that real users and potential users of the coastal reef of Reunion have a very rough assessment of the state of the environment (Thomassin and David, 2008; Thomassin et al. 2010). Some of them show a bad acceptability of the rules set up to regulate the uses on the reef coast. This bad acceptability can lead to a poor enforcement of these rules. To improve the situation, the establishment of bodies for dialogue and consultation between the public authorities and local stakeholders is requested and gather indicators devoted to social acceptability could be a good way to monitor this improvement.

In this context, the first step in structuring coastal users to ICZM goes through their information on the state of the environment. The aim is to make them aware of a problem: the coastal environment is deteriorating because of too many uses poorly or not regulated. In a second step, they must adhere to the idea that this trend may affect their own use of the coast. Therefore, a change is required in order to recover a better quality of the coastal environment. The third step is to make them aware that a) they are beneficial owners of the coastal zone, as well as the other users, and b) their action on the environment can affect their own use but also those of other users. This finding should result in a fourth step in finding solutions for the coastal environment quality improvement and on their acceptance of involvement in this process by changing their practices on the coastal zone.

If the principle is clear, its implementation poses a huge logistical problem. How to make users of the coastal zone participating in the communication process?

On the one hand, it is unrealistic to think that bodies of dialogue can follow an endogenous and informal way in order to set up in each locality of the coast or in each user group to facilitate integrated coastal zone.

On the other hand, it is also unrealistic to think that the ICZM steering structure can conduct alone this dialogue with users through public meetings. Only a small number of users will probably participate, the volunteers to participate.

The most elegant solution seems to be median. It requires the involvement of public authorities, specifically the ICZM steering structure, in order to initiate these bodies of dialogue with users and then support them in their efforts. Once they reach the critical size needed to be representative of users they are supposed to represent, these committees of users can lead to reflections within each user group and if necessary to push those users who have bad impacts on the coastal environment to change their practices. These user committees are both spokespersons of users with the ICZM steering structure and the spokesman of the ICZM steering structure with users. Ideally one would hope that this dialogue between the ICZM steering structure and user committees will be strong enough to engage the coastal users in the in the co-construction of new use regulation which is the best way to get a good social acceptability of coastal management.

In conclusion, we emphasize the essential role that must occupy the management of information in any integrated management of coastal areas. This information management



must be central in the structure of the ICZM steering, which means that the staff of this structure includes at least one specialist in this field. The exchange of information and the support for the development of tools in this area is indeed a key point in the co-construction of an ICZM demand with local councilors and stakeholders. The information management is also central to the coordination of public authorities for coastal management. It is even more critical in supporting the user committees in order they promote the awareness among coastal users that they are beneficial owners of the coastal zone, as such, they must manage it as a heritage in order to transmit it in good condition for future generations.

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