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**Towards an integrated coastal zone management  
system: the Egyptian experience**

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By

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## **Abstract**

Historically, coastal areas, due to the variety of their rich resources, have become among the most highly populated and most exploited areas all over the world. Coasts comprise 20% of the Earth's surface, yet they host a significant and growing portion of the entire human population (Cummins, Mahony & Connolly 2004). As the world's coastal areas come under increasing pressure, Integrated Coastal Zone Management (ICZM) has become the main approach advocated as a mechanism to effectively manage them. However, achieving effective ICZM is complex because of the many human activities along coastlines, and the many dimensions of integration that need to be addressed (Olsen 2003; Olsen, Tobey & Kerr 1997). The challenge is particularly great in developing countries which suffer from highly centralized systems of governance and a lack of effective public and stakeholder participation (Caffyn & Jobbins 2003; Hale et al. 2000; Olsen, Lowry & Tobey 1999). Within these countries, however, there have been few critical and analytical evaluations of the difficulties faced by ICZM experiments. This thesis seeks to address this gap by suggesting that Actor Network Theory (ANT) is an appropriate analytical framework to evaluate ICZM initiatives.

The research develops a conceptual framework based on ANT which is then used to analyse Egyptian ICZM initiatives and to develop a practical approach to the enhancement of ICZM implementation in the country. The framework allowed an in-depth investigation of the Egyptian initiatives and highlighted that there is no effective network that combines national and local ICZM actors. ICZM national and local programmes and projects occur in isolation from each other and from central government policies, as well as operating with different objectives and approaches. Consequently, the thesis identifies the potentials and constraints that should be considered in any future implementation of ICZM. These findings are derived from in-depth interviews with key ICZM actors as well as documentary analysis and participant observation in ICZM meetings. Key actor interviews are also used to pave the way for the next step – developing a practical approach to improve ICZM implementation in the future. This framework is designed to gradually tackle the constraints that limit the effectiveness of ICZM in Egypt.

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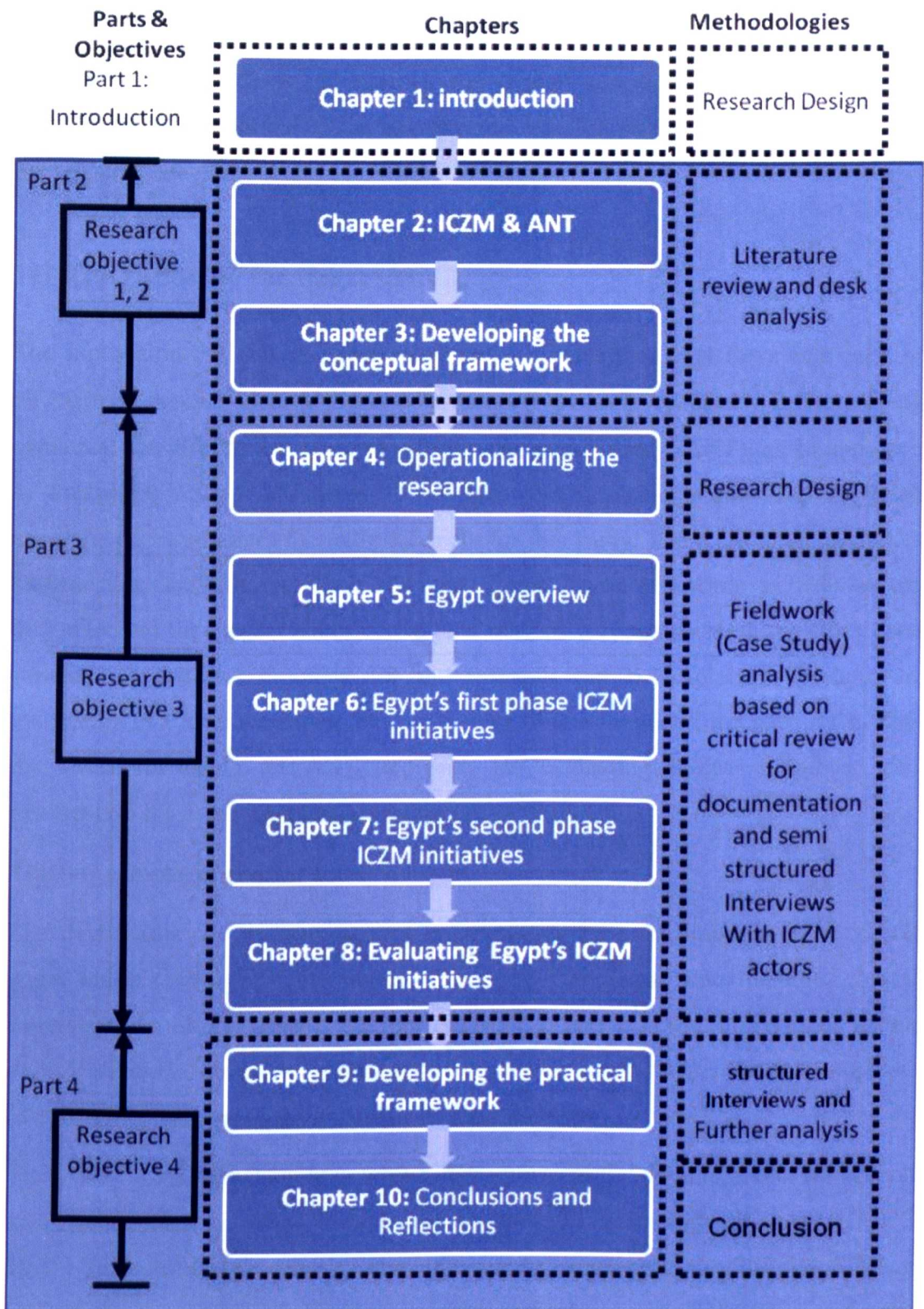
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## **Glossary**

ALAMIM	Alexandria Lake Maryut Integrated Management
ANCZM	Actor Network Coastal Zone Management
CAMP	Coastal Area Management Programme
CEDARE	Centre for Environment and Development for the Arab Region and Europe
CGISS	Centre for GIS Studies and Services
CZM	Coastal zone management
DAME	Department for Africa and the Middle East (Ministry for Foreign Affairs of Finland)
EEAA	Egyptian Environmental Affairs Agency
EIAs	Environmental Impact Assessments
EMUs	Environmental Management Units
EPF	Environmental Protection Fund
EPM	Environmental Programme for the Mediterranean
FA	Focal actor
GEF	Global Environment Facility
GIS	Geographical information systems
GOPP	General Organization for Physical Planning
HEPCA	Hurghada Environmental Protection and Conservation Association
IAS	Irrigation Advisory Service
IGSR	Institute of Graduate Studies and Research
IH Cantabria	Environmental Hydraulics Institute of the University of Cantabria
MAP	Mediterranean Action Plan
MENA	Middle East and North Africa

<b>METAP</b>	<b>Mediterranean Environmental Technical Assistance Programme</b>
<b>MSE</b>	<b>Ministry of State for the Environment</b>
<b>MSICZM</b>	<b>Matrouh-El Sallum Integrated Coastal Zone Management</b>
<b>MWRI</b>	<b>Ministry of Water Resources and Irrigation</b>
<b>NARSS</b>	<b>National Authority for Remote Sensing and Space Sciences</b>
<b>NCICZM</b>	<b>National Committee for Integrated Coastal Zone Management</b>
<b>NGOs</b>	<b>Non-governmental organizations</b>
<b>OPP</b>	<b>Obligatory Passage Point</b>
<b>PAP</b>	<b>Priority Actions Programme</b>
<b>Port Said project</b>	<b>Plan of Action for an ICZM in the area of Port Said</b>
<b>RACs</b>	<b>Regional Activity Centres</b>
<b>RBOs</b>	<b>EEAA Regional Branch Offices</b>
<b>RSCMRM</b>	<b>Red Sea Coastal and Marine Resource Management Project</b>
<b>RSG</b>	<b>Red Sea Governorate</b>
<b>SMAP</b>	<b>Short and Medium Term Priority Environmental Action Programme</b>
<b>SPA</b>	<b>Shore Protection Authority</b>
<b>SPHC</b>	<b>Shore Protection High Committee</b>
<b>TDA</b>	<b>Tourism Development Authority</b>
<b>UNDP</b>	<b>United Nations Development Programme</b>
<b>WB</b>	<b>World Bank</b>

# Part one: Introduction



## **Chapter 1: Introduction**

# 1- Introduction

This chapter introduces the rationale for the research, and sets out the research aim, objectives and questions. It clarifies the overall research design including the research strategy, data collection strategy and research phases. It then describes the overall structure of the thesis as a whole.

## 1-1 The rationale for the research

The motivation for this research arises from a perception that there is a lack of effective Integrated Coastal Zone Management (ICZM), especially in developing countries. The title of this research: 'Actor–Network Theory (ANT), as an approach to evaluating ICZM initiatives to enhance the implementation: The Egyptian experience', summarizes the main rationale for this study. There are three principles keywords in the title: ANT, ICZM and Egypt. These keywords as well as the importance of the coastal zones convey the reasons why the research topic has been selected. A detailed rationale for the research can be explained through the integration of four dimensions: the importance of coastal zones, the need for ICZM, the value for using an ANT approach for evaluating ICZM initiatives, and justification for using Egypt as a case study.

### The importance of coastal zones

The first reason for studying coastal issues comes from the importance of coastal zones which have significant value and functions. The coastal zone, including coastal waters and the littoral zone, is the meeting place of land and sea. It is defined as '*an area of dynamic transition where land and sea interact and which includes both the landward margin and inshore waters*' (Atkins 2004, p4).

This zone is a complicated area where many physical (i.e. people, trees, water) and non-physical (organizations, laws) features exist and interact with each other (EUCC 2000). The coastal zone is basically a multi-resource system. It provides space, living and non-living resources for human activities and it has a regulatory function for the natural and man-made environment. At the same time the coastal zone is a multi-user system. Private and public bodies use the natural resources for subsistence (water and



food), economic activities (space, living and non-living resources, energy) and recreation (beaches and water areas) (EUCC 2000).

Historically and traditionally, coastal areas, due to the variety of their rich resources, are among the most highly populated and most exploited areas all over the world. Coasts comprise 20% of the earth's surface, yet they host a significant portion of the entire human population (Cummins, Mahony & Connolly 2004). Indeed half of the world's population live within 200km of a coastline (Belfiore, Cicin-Sain & Ehler 2004). The rate of population growth in coastal areas is accelerating and coastlines often receive much economic development in the form of tourism, urban, agricultural and industrial development. Unfortunately, the consequences of short-term benefits resulting from a sectorial coastal management approach to dealing with the coastal zone has been environmental pollution and a depletion of its natural resources (Belfiore, Cicin-Sain & Ehler 2004; UN 2002).

### **The need for ICZM**

Human impacts, coupled with global climate change are placing increased pressures on coastal environments. In addition, conflicts of interest arise from competition for coastal space and resources. During the last three decades, in response to the growing problems of coastal zones, many countries have introduced policies and programmes to try to manage these critical assets. Indeed, a common concern for integrated management and sustainable development of coastal and marine areas was adopted globally in 1992 at the United Nations Conference on Environment and Development (UNCED) (Mikhaylichenko 2006; Pedersen et al. 2005). More recently, Integrated Coastal Zone Management (ICZM) has been defined by the European Commission (1996) as *'a continuous process with the general aim of implementing sustainable development in coastal zones and maintaining their diversity. To this end it aims, through more effective management, to establish and maintain (sustainable) levels of use, development and activity in coastal zones and eventually to improve the state of the coastal environment.'* (O'Hagan & Cooper 2001, p73). Subsequently, ICZM now has an international recognition, and has been adopted as a policy priority by such international bodies as the World Bank, the United Nations Environment Programme, the International Union for the Conservation of Nature and Natural Resources, and many national governments and agencies.

As the world's coastal areas come under increasing pressure, ICZM has become the main approach advocated as a mechanism to effectively manage human activity in coastal areas. Achieving an effective ICZM is complex because of the many human activities along coastlines, and the many dimensions of integration that need to be addressed (Olsen 2003; Olsen, Tobey & Kerr 1997). Achieving integration at both national and local levels is always difficult, especially in developing countries which suffer from highly centralized systems of governance and lack of effective stakeholder involvement and public participation (Caffyn & Jobbins 2003; Hale et al. 2000; Olsen, Lowry & Tobey 1999). Furthermore many of the evaluations which have been undertaken advocating the adoption of ICZM have been undertaken within the context of developed countries (Belfiore et al. 2006). There is a need to adopt a more analytical and critical approach to be able to understand why many ICZM programmes, particularly in developing countries, have failed.

### **Why use the ANT approach for evaluating ICZM initiatives**

Investigating ICZM through an Actor Network Theory (ANT) approach can help to understand and map the endeavours of ICZM actors. ANT is a concept that allows for the exploration of the relationships between the various actors and helps to explain how the network is created or modified in which all the actors agree that the network is worth building and defending (McLaren Loring 2007). Indeed Law (1994), cited in (Woods 1998), explained ANT as an approach that tells stories about the processes of ordering that generate effects. ANT provides an analytical tool for explaining the process by which networks are created and constantly re-configured (Callon & Neil 2001). Additionally, ANT investigates the complex composition of networks, seeks to understand how the networks gain their strength and how they achieve their objectives (Duim 2005). Thus ANT can be used to explore the interrelationships between a set of actors who have been successfully translated or enrolled by a dominant and powerful focal actor. The focal actor can be an individual or an institution or a combination of the two. By working collaboratively, the network is collectively able to gain strength and act on their own or with the direct or indirect support of the focal actor (Morris 2004). In fact, the main idea behind using ANT for exploring ICZM in developing countries is that it is useful in understanding why planning and management endeavours succeed or fail as a direct result of network integrity recognizing the important role assigned to the focal actor (McLaren

Loring 2007). So ANT may help to understand why many ICZM programmes, particularly in developing countries, have failed.

### **Why use Egypt as a case study**

The rationale behind using Egypt as the case study for this research is that it is one of the leading countries in the Middle East and North Africa (MENA) region.<sup>1</sup> Much of this region is characterized by large public sectors, with centralized governments, large and over-staffed civil services, in addition to the rigid bureaucratic systems and the lack of coordination between relevant administrative bodies (World Bank 2004).

Egypt, as one of the MENA region countries, is often seen as a benchmark for the rest of the region (CEDARE 2005). Yet like most developing countries it suffers from centralization and lack of stakeholder involvement and public participation in planning and decision-making processes (Nawar & Kashef 2007; Sowers 2003). These concerns are particularly apposite for coastal management. So, by analysing the ICZM initiatives in Egypt the research intends to develop a practical approach that enhances the implementation of ICZM, in Egypt, and in the wider MENA region.<sup>2</sup>

In addition, with consideration for the limitations of the researcher's background, language, resources, time, and the fact that this research is sponsored by the Egyptian Government, Egypt is selected as the most appropriate focus for this research.

### **Synopsis**

In summary, ICZM has been recognized at the international level as the main tool to effectively protect and manage the coastal and marine environment. However, achieving effective ICZM is always difficult, especially in developing countries. As a result, there is a need to adopt a more analytical and critical approach to be able to understand why many ICZM programmes, particularly in developing countries, have failed (Olsen 2003).

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<sup>1</sup> The Middle East and North Africa Region (MENA) covers a wide array of countries from Morocco in the West to Iran in the East. The MENA Region includes: Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza, and Yemen (World Bank 2004).

<sup>2</sup> More details regarding the significance of ICZM for Egypt can be found in chapter four.

This research starts off by suggesting that ANT is an appropriate analytical framework that can be used to explore the endeavours of ICZM actors. The research is not intended to be a theoretical explanation of ANT, but attempts to evaluate the ICZM initiatives in one developing country, namely Egypt, by considering ICZM from an ANT perspective. Then the research intends to develop a practical approach in order to enhance the implementation of ICZM for developing countries.

## **1-2 Research aim and objectives**

The aim of this research is to build a practical approach that enhances ICZM implementation in countries with highly centralized governance systems and deficit of stakeholder involvement and public participation. To achieve this aim the main question for the research is “how can coastal zone management be implemented in a sustainable and integrated way in countries with highly centralized governance systems and deficit of stakeholder involvement and public participation?” The study is supported by four substantive objectives.

### **Objective one**

To understand the complex process and decision making context of ICZM.

This means understanding the characteristics of ICZM as a tool of effective planning and management as well as clarifying the nature of the ICZM process and identifying principles of best practice. This objective requires an extensive literature review to address these questions:

- What is ICZM?
- What are the key principles of ICZM?
- What can be considered an ideal ICZM process?
- Who should be involved in the ICZM process?
- To what extent can ICZM be implemented in developing countries?

### **Objective two**

To understand how various actors should be involved in integrated coastal zone management.

This means understanding the relationship between actors and defining the stability of the network of individuals and organizations involved in ICZM. This objective requires an extensive literature review to address these questions:

- How can the ANT approach be used to analyse the ICZM initiatives?
- What are the factors that should be addressed in order to evaluate ICZM initiatives?
- What are the approaches for initiating and processing ICZM?
- How can the capacity of the focal actor and other actors affect the initiating and processing of ICZM?
- How can the intermediaries between the actors affect the initiating and processing of ICZM?
- How can the interaction between actors (networking) in the network affect the initiating and processing of ICZM?

### **Objective three**

To evaluate Egypt's ICZM policy and practice against the conceptual framework.

This will happen through an understanding of Egypt's first phase experience (before 2005) and second phase experience (after 2005) in ICZM. The research starts by drawing an actor network map to clarify which actor is responsible for what activity. Then the ICZM initiatives (before and after 2005) are examined against seven factors that the conceptual framework suggests affects ICZM effectiveness in order to assess progress, trends and challenges. Thus potentials and constraints for future implementation of ICZM can be outlined.

This objective depends on a review of documentation supported by semi-structured interviews with ICZM actors in Egypt addressing these questions:

- What was the state of coastal management issues and ICZM initiatives in Egypt before 2005?
- What is the state of coastal management issues and ICZM initiatives in Egypt after 2005?
- How do Egypt's first and second phases of ICZM policy and practice compare with the conceptual framework?

- Does Egypt's second phase ICZM policy and practice recognize the lessons from previous initiatives?
- What are the potentials and constraints in applying ICZM in Egypt?

#### **Objective four**

To develop a practical approach that can be applied to Egypt and other countries within the MENA region.

In order to develop a practical approach the research will categorise the constraints that were revealed from the evaluation of ICZM initiatives and clarify the possible recommendations to enhance the ICZM implementation in Egypt. Then the thesis seeks to construct a practical approach based on desk analysis for the combination between the conclusion of the literature review which includes the conceptual framework, and the conclusions of the fieldwork. In fact this objective is related to two research questions:

- What are the recommendations that should be considered so that ICZM stands some chance of success in the future?
- What practical approach could enhance the effective ICZM implementation in Egypt and in other developing countries?

### **1-3 Research design**

The nature of this study is explanatory and exploratory from the viewpoint of research objectives (Kumar 2005). These research objectives are designed to explain and explore the main question of the research.

Moreover the nature of the study is qualitative from the viewpoint of the research process (Kumar 2005). As Dabbs, cited in (Berg 2007), suggests, qualitative research is best used to answer what, how, when and where questions. Qualitative research therefore focuses on meaning, concepts, definitions, characteristics, metaphors, symbols and descriptions. In fact, as is clearly illustrated from the research aim, objectives and questions that the research intended to answer the question of what, how, when and where regarding ICZM definitions, concepts, characteristics, process and implementation with especial reference to one of the developing countries.

This section is intended to provide a general introduction to the research strategy, data collection strategy and research phases.<sup>3</sup>

### **1-3-1 Research strategy**

In order to meet the research aim and objectives, the research is designed using a case study research strategy.

A case study strategy refers to a set of methods that can be applied for investigating human issues or social phenomena and is particularly suitable if the study is concerned with understanding individuals, groups or events, and the research questions are specific to those (Berg 2007; Kumar 2005; Yin 1993, 2003). In this research the questions are related to ICZM in Egypt as a case study with a highly centralized governance system and a deficit of stakeholder involvement and public participation and tend to examine the ICZM initiatives<sup>4</sup>. This examination considers not only ICZM initiatives before and after 2005 but also ICZM initiatives at both national and local levels. The evaluation is based around the conceptual framework in order to develop a practical approach that can be used in Egypt and in other countries in MENA region which have similar characteristics. Therefore, the case study is selected as the major strategy for this research to meet the aim and objectives of the research.

### **1-3-2 Data collection strategy**

Qualitative data from both primary and secondary sources of information are used in this research. The data have been collected from two main sources: primary sources including participant observation and interviews, complemented by a variety of secondary data. This approach is useful as multiple sources of evidence can be used to enable cross-checking of results drawn from different information sources (Berg 2007; Yin 2003).

#### **Data collection from secondary sources**

Secondary sources are data that have been collected by individuals or agencies for purposes other than those of this research study. This also includes sources that

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<sup>3</sup> Detailed research methodologies and case study strategies are presented in chapter four.

<sup>4</sup> Further details about why selecting Egypt as the case study for this research are presented in chapter four.

digest, analyse, evaluate and interpret the information contained within primary sources (Kumar 2005; Yin 2003). In this research the secondary sources are based on documents containing technical and scientific literature.

These kinds of documents were useful sources of information on the research activities and processes, especially when formulating the conceptual framework based on the literature review. They were also helpful in investigating the coastal management practices in Egypt and generating ideas for questions that were pursued through interviewing. However, Kumar (2005) emphasizes that when using data from secondary sources the researcher should be wary that there may be some problems related to validity, reliability, personal bias, availability of data and the format of the data. In fact, it should be remembered that secondary sources were written for a specific purpose other than those of this research (Yin 1993, 2003). The research has recognised this and been critical when using such documents and this has helped to identify the evidence needed for this research.

### **Data collection from primary sources**

Primary data collection is necessary when a researcher cannot find the data needed in secondary sources (Ackroyd 1992). In this research, participant observation and interviews were organized in relation to the main research questions to understand and gain the experience and opinions of ICZM actors which were essential for understanding and analysing the Egyptian ICZM initiatives.

*Participant observation method* has been used in a variety of disciplines as a tool for collecting data about people, processes, and cultures in qualitative research (MACK et al. 2005). It is useful to researchers in a variety of ways. It provides researchers with ways to determine who interacts with whom and grasp how participants communicate with each other (Kawulich 2005). Furthermore it helps the researcher to get the feel for how things are organized and prioritized, how people interrelate, and what are the cultural parameters. It makes the researcher become known to the community members, thereby easing facilitation of the research process. Furthermore it provides the researcher with a source of questions to be addressed with interviewees (MACK et al. 2005). In this regard Kawulich (2005) believes that when acting as interviewers, researchers are guided by the understanding gained through participant observation, allowing them to ask more appropriate questions and probes. In this research three meetings of different ICZM initiatives in Egypt were attended



as an approach to participant observation in order to facilitate and develop positive relationships between researcher and key ICZM actors and gain an access to potential interviewees.

*Interviewing* is one of the most common methods for collecting data in qualitative research. Interviews allow participants to provide rich, contextual descriptions of events. There are three types of interviews according to the degree of flexibility:

- Unstructured, which allows unplanned communication in the course of the interview or questionnaire administration, meaning flexible content and questions.
- Structured, where the researcher is highly restricted on what can be said and the content, questions and their wording is rigid.
- Semi-structured, which restricts certain kinds of communication but allows freedom of discussion on certain topics (Ackroyd 1992; Byrne 2001; Kumar 2005).

Throughout this research, semi-structured interview and structured interview, were determined to be the most appropriate in order to find answers to the research questions, methodology and insights from the literature (Byrne 2001). In fact the semi-structured interview approach has been selected as it makes interviewing of a number of different persons more systematic and comprehensive by limiting the issues considered during the interview. Logical gaps in the data collected can be anticipated and closed, while the interviews remain fairly conversational and situational (Byrne 2001). This means there is some flexibility. Moreover, within the list of topic or subject areas, the interviewer is free to pursue certain questions in greater depth. To be more specific in this research, semi-structured interviews with ICZM actors in Egypt were used in both the first and second phases of data collection, which allowed the exploration of various issues with respondents in depth through the flexible discussion of the issues related to integration and ICZM initiatives in Egypt. This was essential to gain the data necessary to answer the research questions.

However the structured interview approach was selected in the third phase of data collection. This was conducted with the same interviewees who had been interviewed in the previous two phases of data collection. A structured approach was

used in an attempt to validate the research findings. Thus the interviews in this phase were more restricted in terms of what could be said and the content, questions and wording was more specific and constantly applied to all of the interviewees (Byrne 2001).

### **Ethical considerations**

No major ethical considerations are foreseen to arise out of conducting this research in terms of race, gender or religion. Perhaps the main ethical consideration that needs to be accounted for is ensuring that ICZM actors and local authorities privacy is respected at all times and that all transcribed material remain anonymous, as requested by all interviewees.

### **1-3-3 Research phases**

The basic research methodologies that will be utilized in order to gain the essential data needed to build a practical approach that enhances the ICZM implementation in countries with highly centralized governance systems and deficit of stakeholder involvement and public participation are described below, and in general the research can be divided into three main phases. Figure 1-1 shows the research phases and their relation to the research objectives and data collection methods.

#### **Constructing the conceptual framework**

The first phase of this research is concerned with the first and second objectives of this research. It is to develop a conceptual framework based on the ANT approach and the factors that affect ICZM effectiveness. It seeks to identify the nature of ICZM, review the ICZM process and key principles, as well as exploring the ANT approach in order to develop a conceptual framework that could be used to assess the ICZM initiatives. In this phase, a literature review and desk analysis will be conducted to provide essential background knowledge needed to develop the conceptual framework. In this phase of the research, the literature review is vital in order to pursue the questions of the first and second objectives of the research. This requires obtaining input from the various technical and scientific literature.

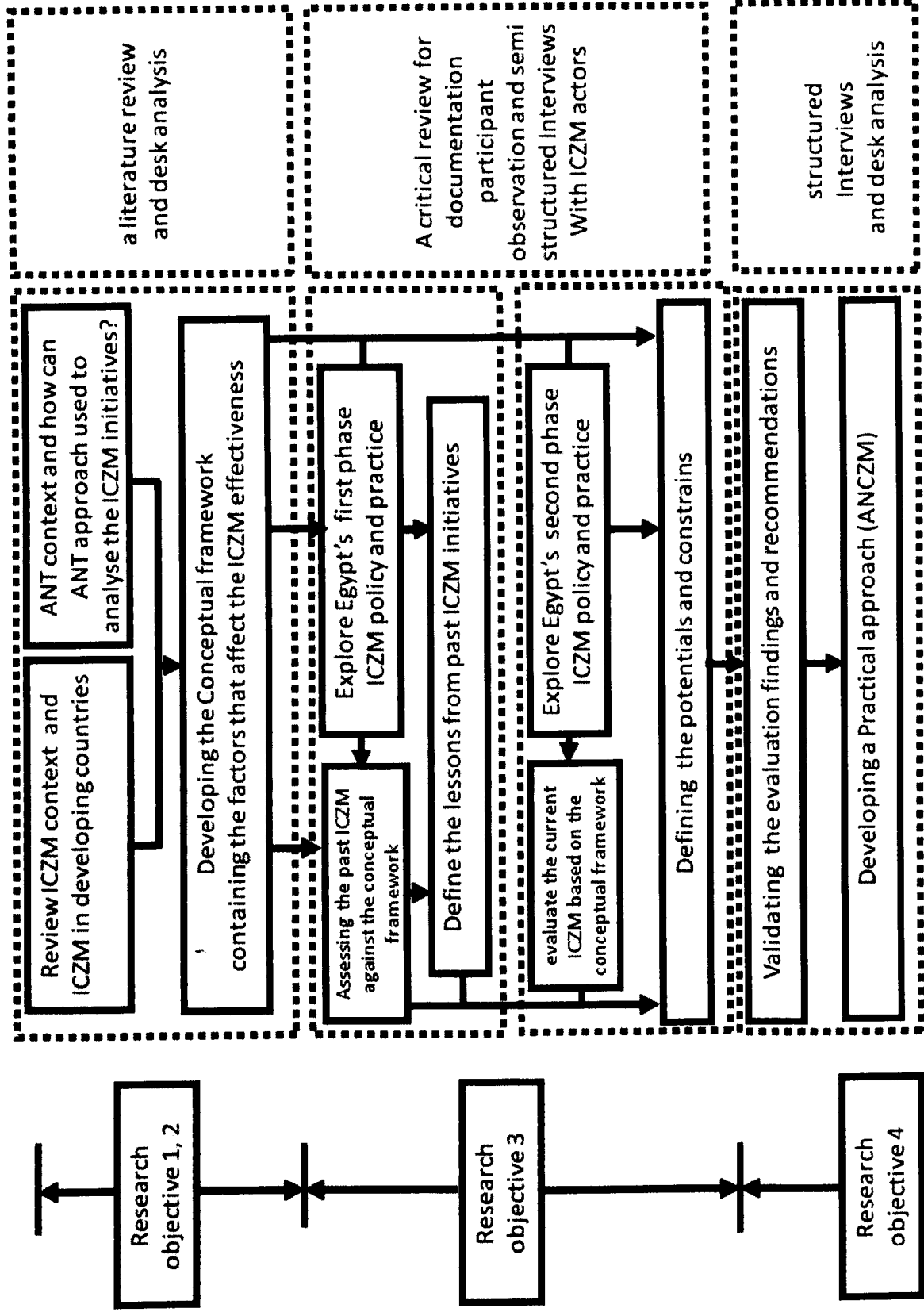


Figure 1-1 Research phases and their relation to the research objectives and data collection methods

## **Exploring Egypt's ICZM initiatives**

The ICZM initiatives in Egypt can be divided into two main periods based on the achievements and the stagnation of ICZM. The first period started from 1995 when the National Committee for ICZM (NCICZM) was first set up. The second period started in 2005 when amendments to the environmental regulations to enhance the power of the Egyptian Environmental Affairs Agency (EEAA) were enacted. The research intends to describe and evaluate both periods.

The second phase in the research is concerned with the third objective of this research. It is concerned with evaluating the coastal management issues and ICZM initiatives in Egypt in both phases of implementation (before 2005 and after 2005). The analysis is based on analysing secondary sources including coastal policy statements, strategies, programmes, legislation and the statutes of Egypt, and is complemented by interviews with key actors who were and are directly involved in the ICZM process in Egypt.

The research pursues this phase by focusing on the evaluation of ICZM initiatives against the conceptual framework to assess progress, trends and challenges. Furthermore the research also explores whether Egypt has recognized the lessons from the first phase in the attempts that have been introduced during the second phase of ICZM. For instance, the analysis of Egypt's first and second phases of ICZM initiatives at national and local levels is the entry point to define potentials and constraints and therefore develop a realistic practical approach that enhances the implementation of ICZM in developing countries.

## **Developing the practical approach**

This phase is concerned with the final objective of this research. It focuses on two research questions: What are the recommendations that should be considered so that ICZM stands some chance of success in the future? What practical approach could enhance the ICZM in Egypt and other developing countries?

The research pursues these questions by attempting to validate the research findings. The constraints revealed from the evaluation of ICZM initiatives are categorised and real recommendations to tackle these constraints have been developed and verified by the Egyptian coastal management actors. This step is paving the way for developing a practical approach that could enhance ICZM in Egypt and other

developing countries that face similar constraints. In fact, this proposed framework is based on desk analysis of a combination between the conclusion of the literature review which includes the conceptual framework as well as the conclusions of the fieldwork.

## **1-4 The structure of the thesis**

This thesis is divided into four parts. Figure 1-2 shows the thesis structure and its relation to objectives and methodologies. The first part is the introduction, the second part is the conceptual framework, the third part is the case study and the last part is the practical approach. Accordingly, each part has a number of chapters as follow.

### **Part one: The introduction**

This part contains one chapter which provides the introduction to the research subject and the methodology.

#### **Chapter 1: Introduction**

This chapter introduces the rationale for the research, and sets out the research aim, objectives and questions. It clarifies the overall research design including the research strategy, data collection strategy and research phases. Then it illustrates the overall structure of the thesis.

### **Part two: The conceptual framework**

This part contains two chapters. This part is designed to achieve the first two objectives of the research.

#### **Chapter 2: ICZM and ANT**

This chapter is concerned with the first and the second objectives of this research. For this purpose the chapter has been divided into five sections. The first section is concerned with ICZM context. Then, ICZM in developing countries is illustrated in the second section. The third section is concerned with the ANT context, while the fourth section is intended to answer this question: How can the ANT approach be used to analyse ICZM initiatives?

The chapter concludes by suggesting that analysing ICZM based on the ANT approach means analysing the ICZM through the lenses of the approach for initiation

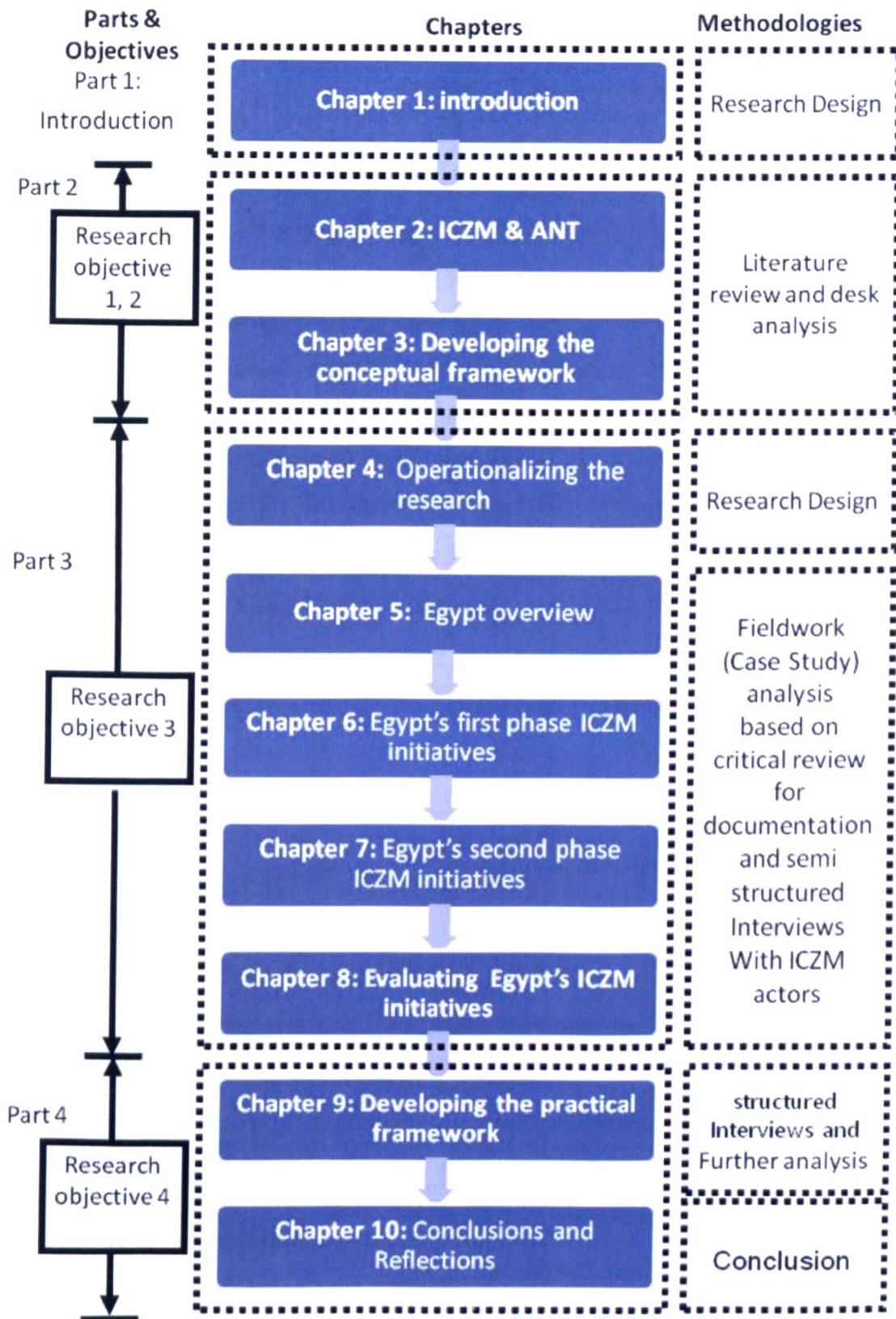


Figure 1-2 Thesis structure and its relation to objectives and methodologies

and processing, the capacity development, the role of intermediaries, and the importance of networking.

### **Chapter 3: Developing the conceptual framework**

This chapter is concerned with the second objective of this research. In fact it looks further into the detailed factors that affect ICZM effectiveness in order to create a conceptual framework that can be used to evaluate the ICZM initiatives at both national and local scales. For this purpose, this chapter consists of five parts. The first one provides an overview of the ICZM approaches. After this, the capacity development and its significant role in enhancing the implementation of ICZM are illustrated. The third part is concerned with the role and importance of the intermediaries. The fourth part investigates the interaction between actors (networking). In conclusion, this chapter explains how the conceptual framework containing the seven factors that affect ICZM effectiveness can be used to analyse the ICZM initiatives.

### **Part three: Empirical work**

This part contains five chapters. It is designed to achieve the third objective of the research.

### **Chapter 4: Operationalizing the research**

This chapter aims to clarify the detailed strategy to deal with Egypt as the case study. It defines the methods of working including the specific national and local project selection, case study strategy, criteria for evaluation, and the approach adapted to data collection and analysis.

### **Chapter 5: Egypt overview**

This chapter design to demonstrate an overview about Egypt as a case study in order to understand its context before embarking on reviewing its ICZM initiatives and analysing these initiatives against the conceptual framework.

### **Chapter 6: Egypt's first phase ICZM initiatives**

This chapter is concerned partially with the third objective of this research. Since the mid 1990s, several attempts have taken place to promote ICZM. This chapter is firstly presents the establishing of the national initiatives including the National Committee for ICZM its members and its proposed role, as well as the preparation of

the national ICZM framework, with particular emphasis being given to its intended objectives. The following section describes ICZM local initiatives by giving details of each project including the importance of these projects, their context and their activities. The idea is to provide the context for the analysis.

### **Chapter 7: Egypt's second phase ICZM initiatives**

This chapter is concerned partially with the third objective of this research. Since 2005, several attempts have taken place to promote ICZM; each one of these attempts will be described. Hence this chapter presents the ICZM national initiatives containing the re-establishing of the NCICZM, the new environmental regulation and the preparation of the national ICZM strategy. Then the following section describes ICZM local initiatives by giving details of each project including the importance of these projects, their context and their activities. The idea is to provide the context for the analysis.

### **Chapter 8: Evaluating ICZM initiatives**

Based on the ICZM initiatives which were illustrated in the previous chapters, this chapter is designed to evaluate those initiatives. In fact this chapter evaluates the ICZM initiatives against the conceptual framework. This is based on the seven factors that affect ICZM effectiveness. It assesses progress, trends and challenges so that potentials and constraints can be extracted. Thus, this chapter is divided into two main parts. The first part aims to examine the ICZM initiatives in both phases against the conceptual framework and clarifies if Egypt's second phase ICZM policy and practice have recognized the lessons from previous initiatives. The second part teases out the potentials and constraints for future implementation of ICZM.

### **Part four: Developing the practical approach**

This part contains two chapters. It is designed to achieve the fourth objective of the research and presents the final conclusions of the research.

### **Chapter 9: Developing the practical approach**

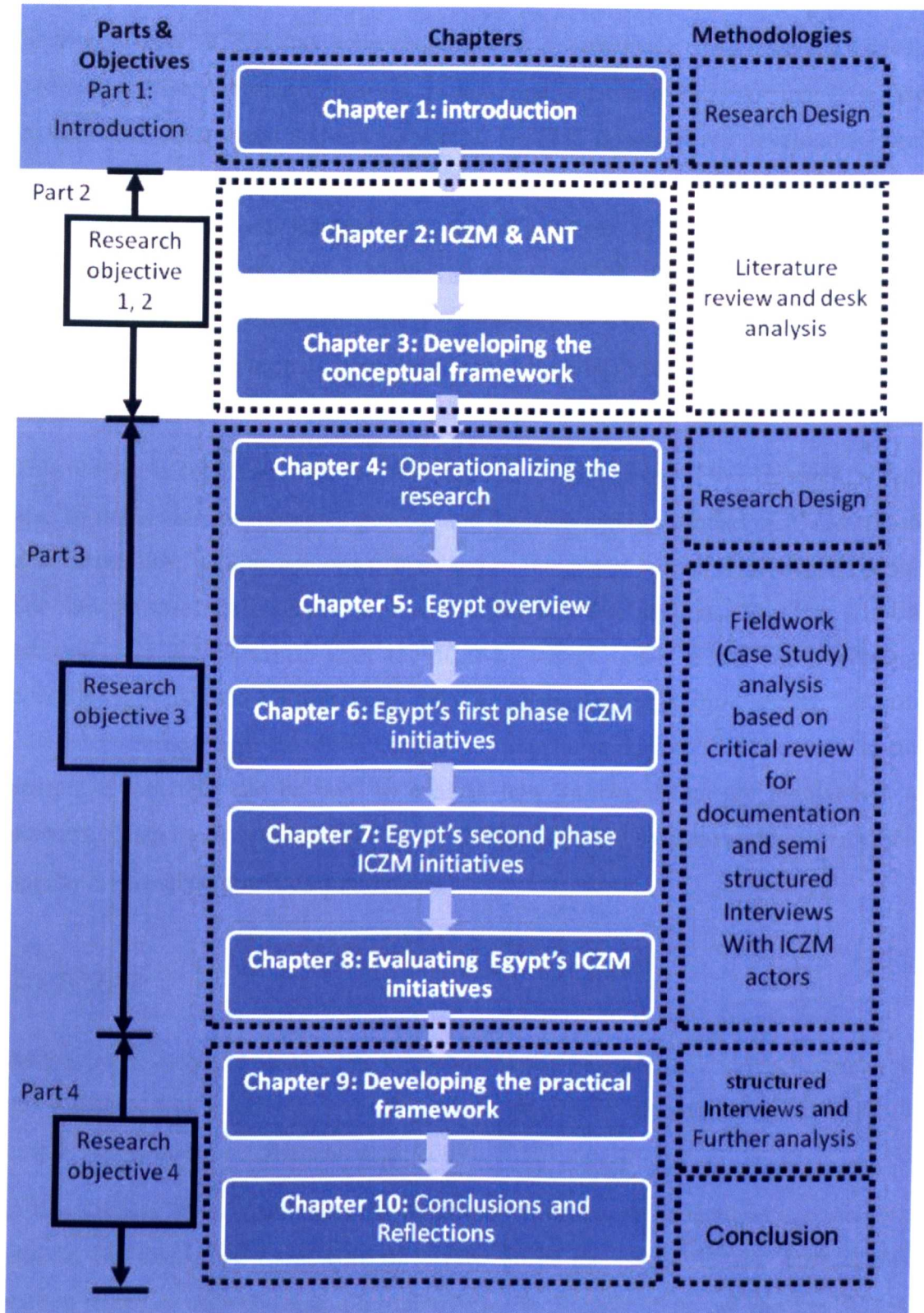
This chapter is concerned with the fourth objective of this research. It is divided into two sections the first one intends to validating the findings of the previous section and paving the way for the next section which develops the practical approach that enhances the ICZM implementation.



**Chapter 10: Conclusions and Reflections**

This chapter presents the final conclusions generated by the thesis. The chapter has three significant parts. The first reflects on the research context. Second it establishes the final conclusion of the thesis, evaluating the theoretical and empirical research findings against the research aims and objectives. The last part discusses a potential future research direction in relation to the effectiveness of ICZM implementation.

## Part two: the conceptual framework



## **Chapter 2: ICZM and ANT**

## **2- ICZM and ANT**

In recent years, ICZM has been promoted, in a systematic way, through various national and international initiatives, as a comprehensive strategy for managing the coastal zone where land and sea interact. It seeks to manage both development and conservation, resolve user conflicts and integrate the concerns of all stakeholders (Olsen 2003). However, achieving successful ICZM is complex, especially in developing countries (CoastNet 2008; Kay & Alder 2005). Therefore, there is a need to adopt a more analytical and critical approach to be able to understand why many ICZM programmes, particularly in developing countries, have failed (CoastNet 2008; Sekhar 2005).

This chapter is concerned with the first and second objectives of this research, which are: To understand the complex process and decision making context of ICZM and to understand how various actors are involved in integrated coastal zone management. For this purpose this chapter has been divided into five sections. The first section (section 2-1) is concerned with the ICZM context. Then ICZM in developing countries is illustrated in the second section (section 2-2) The third section (section 2-3) is concerned with the ANT context in order to understand its approach as an analytical tool that can be used to analyse how various actors are involved in a network. Then the fourth section (section 2-4) is intended to discuss the use of ANT approach to analyse the ICZM initiatives.

### **2-1 ICZM**

As the world's coastal areas come under increasing pressure, ICZM has become the main approach advocated as a mechanism to effectively manage human activity in coastal areas (González-Riancho et al. 2009).

In this section, the ICZM context is highlighted in order to understand the complex process and decisional framework of ICZM. To be more specific, the work in this section seeks to answer these questions: What is ICZM? What are the key ICZM principles? What is an ideal ICZM process? Who should be involved in the ICZM process?

### **2-1-1 ICZM definitions**

Human impacts, coupled with global climate change are placing increased pressures on coastal environments. In addition, conflicts of interest arise from competition for coastal space and resources. During the last three decades, in response to existing problems of coastal zones, many countries have introduced policies and programmes to try to manage these critical assets. For example, as an attempt to resolve the increasing pressures on coastal resources, the Coastal Zone Management (CZM) Act was developed in the USA in 1970s (Cummins, Mahony & Connolly 2004). This Act set the scene for what is acknowledged as the first national CZM programme, prompting countries of the developed world to take an interest in the quality and management of their coastal environments. Subsequently, a number of countries worked on coastal management plans independently, without the use of a formal title (Atkins 2004). Further to this, the term integrated was added in the 1980s when it became clear that the effective management of coastal areas requires a cross-sectoral approach. In other words, the main difference between ICZM and the earlier CZM is that the former attempts a more comprehensive approach, taking account of all the sectoral activities that affect the coast and its resources, and dealing with economic and social issues as well as environmental/ecological concerns (Cummins, Mahony & Connolly 2004).

Concerns about integrated management and sustainable development of coastal and marine areas was again raised in 1992 at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (Mikhaylichenko 2006; Pedersen et al. 2005). As a result, ICZM now forms part for the strategy of the International Union for the Conservation of Nature and Natural Resources, and has been adopted as policy principle to be actively promoted by such international bodies as the World Bank, the United Nations Environment Programme, and many national governments and agencies. For instance, Agenda 21 recommends that coastal states employ an integrated management of the coastal and marine environment to achieve sustainable development (Cho 2006). This was strongly re-endorsed during the World Summit on Sustainable Development, held in Johannesburg in 2002, when states committed to improving coordination and cooperation at all levels to address issues related to oceans and the seas, in an integrated manner. Thereby promoting

integrated management and sustainable development of the oceans and seas (Borhan 2007).

In fact, Olsen (2002) asserts that coastal management practices evolves through three stages of development. Starting with Enhanced Sectoral Management which focuses upon the management of a single sector or topic but explicitly addresses impacts and interdependencies with other sectors and the ecosystems affected. In the second stage, CZM develops a multi-sectoral management approach which focuses upon both development and conservation issues within narrow, geographically delineated stretches of coastline and near shore waters. Finally, it is converted to ICZM which expands the cross-sectoral features of coastal zone management combined and integrated with ecosystem processes within coastal watersheds and oceans. It explicitly defines its goal in terms of progress towards more sustainable forms of development.

It has been observed by ICZM scholars that varying terms and the corresponding acronyms, e.g. SICOM (Sustainable Integrated Coastal Ocean Management), ICOM (Integrated Coastal Ocean Management), ICSM (Integrated Coastal Sea Management), ICAM (Integrated Coastal Area Management) and ICM (Integrated Coastal Management)) are often used interchangeable when referring to similar notions: Integrated Coastal Zone Management (ICZM) (CoastNet 2008).

The ICZM have many definitions. The following are frequently cited definitions of ICZM:

*'ICZM is a process by which rational decisions are made concerning the conservation and sustainable use of coastal and ocean resources and space. The process is designed to overcome the fragmentation inherent in single-sector management approaches (fishing operations, oil and gas development, etc.), in the splits in jurisdiction among different levels of government, and in the land–water interface.'* (Cicin-Sain & Knecht 1998, p1)

*'ICZM is a broad and dynamic process that requires the active and sustained involvement of the interested public and many stakeholders with interests in how coastal resources are allocated and conflicts are mediated. The ICZM process provides a means by which concerns at local, regional and national levels are discussed and future directions are negotiated.'* (Christie 2005, p209)

Integrated coastal zone management is defined by the European Commission (1996) as *'a continuous process with the general aim of implementing sustainable development in coastal zones and maintaining their diversity. To this end it aims, by more effective management, to establish and maintain (sustainable) levels of use, development and activity in coastal zones and eventually to improve the state of the coastal environment.'* (O'Hagan & Cooper 2001, p73)

Also, ICZM can be defined as *'A continuous and dynamic process that unites government and the community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the protection and development of coastal ecosystems and resources'* (Wilson & Wiber 2009, P560).

All the previous definitions stress the dynamic nature of the coastal management process and its emphasis on integration. In addition they highlight that ICZM is a complex process with various issues to be covered and requiring a network of agencies and policies to be integrated (Rupprecht Consult 2006). Furthermore, the previous definitions highlight distinctive characteristics of ICZM as a tool of effective planning and management, that has its own entity. It encompasses different dimensions. Simultaneously, the integration is horizontal (cross-sectoral) and vertical (involving various administrative bodies), as well as territorial (comprising a delimited space), and temporal (long-term oriented) (Atkins 2004; Cummins, Mahony & Connolly 2004; Foster, Haward & Coffen-Smout 2005). Furthermore, the essential function of ICZM is to preserve, restore or advance particular qualities of coastal ecosystems and their related human societies (Olsen 2003).

In summary ICZM belongs to the family of initiatives that are working towards a better balance between human societies and the ecosystems of which they are but one element. So ICZM, like some forms of spatial or collaborative planning and development, holds the promise of being a vehicle for progressing towards sustainable development based on a participatory process that involves all stakeholders (Christie 2005; Lane 2006).

### **2-1-2 ICZM principles**

Within the diversity of ICZM definitions the European Commission, during the 1990s, identified a number of key principles for ICZM (Atkins 2004; Cummins, Mahony & Connolly 2004). In addition, ICZM researchers have suggested that there

are other principles for ICZM in order to be successful (Hills et al. 2006; Mark 2002; Olsen, Tobey & Kerr 1997; Pedersen et al. 2005; Stojanovic, Ballinger & Lalwani 2004; UN 1993). The following key themes are commonly proposed as core principles of ICZM:

- Comprehensive concerns, taking a sufficiently wide scope and full overview of the issues. To put it more simply, to try to see the bigger picture – view interrelated coastal problems in the widest possible context, including consideration of all coastal activities and uses both on land and within coastal waters.
- Work with nature rather than against it by adopting policies that lead to economically and ecologically sustainable and equitable resource management.
- Create tight local–regional–national–international linkages recognising the open nature and the permeability of boundaries.
- Cooperate by making actions cross-sectoral. This means that cooperation is the process by which agencies operate together and are coordinated.
- Develop a participatory process that involves all stakeholders.
- The experience to date with ICZM programmes suggests that decentralized ICZM can be quite effective.
- Adopt an incremental, adaptive and long-term view beyond immediate short-term needs and address longer-term issues. In fact, organizational and financial stability are important factors for ensuring that ICZM initiatives are sustainable in the long term.
- Ensure a coupling between planning and implementation. Based on the fact that planning and implementation of project activities (e.g. pilot projects) need to be fully integrated into the main programme.
- Be flexible and adaptable by developing mechanisms for sustained and continuous learning.
- Enhance public education and awareness.
- Build capacity to practice integrated and community-based management.



- Mobilizing support for ICZM is dependent on whether citizens feel a sense of responsibility to and ownership of the planning concept.

At this stage and from the previous list of ICZM principles it can be recognized that ICZM can be defined as a network for all stakeholders. In other words it can be seen as an interrelated set of entities using a combination of tools – using legal, economic and educational approaches to tackle coastal problems rather than relying on one instrument in isolation, and including all relevant administrative bodies and local communities. Furthermore, Cummins et al. (2004) highlighted the fact that ICZM can take many forms depending on the context, but it has mainly been focused on encouraging sustainable coastal resource use through an iterative process.

### **2-1-3 ICZM process**

Coastal planning and management can be described as a cyclic process for determining what is aimed to be achieved in the future (the plan) and the steps required to achieve it (the management process) (IH Cantabria 2007). For instance there are many descriptions of the process by which ICZM programmes evolve. It emerged from the literature that some stages and steps are common to the majority of integrated coastal management procedures. The process can be described as a multiple step cycle of planning–commitment–implementation–evaluation (Olsen 2003; Olsen, Tobey & Kerr 1997). Furthermore, the process is expected to be continuous, and there is no end point after which the process is considered complete. Figure 2-1 shows the stages of the ICZM cycle representing an iterative and circular approach.

The general structure of the ICZM process includes five main stages which are described in the next sections (Brochier & Giupponi 2001; Cummins, Mahony & Connolly 2004; Olsen, Tobey & Kerr 1997).

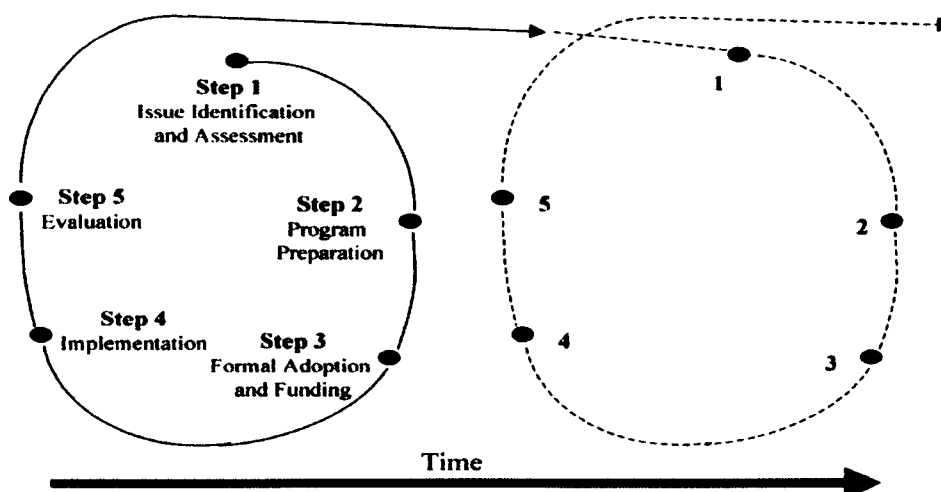


Figure 2-1 The stages of the ICZM cycle

Source: (Cummins, Mahony & Connolly 2004; Olsen, Tobey & Kerr 1997)

### Issues identification and assessment

The first stage of the ICZM process involves the definition and assessment of the issues relating to problems in the area of interest. In this phase the most relevant environmental, social and institutional issues are assessed, in order to define, in concert with stakeholders, the priorities of the ICZM initiative and its goals.

This stage could be simultaneously both the starting but also the end point in the sense that the identification of problems may arise after a thorough and in-depth analysis of the current state (Coccosis, Mexa & Collovini 2001). In short, the tasks for this stage are:

- Rapid assessment of existing conditions;
- Consultation with key stakeholders and identifying priority issues;
- Selection of the issues to be addressed and the geographic focus;
- Preparation of a concept paper outlining the need for ICZM;
- Approval for the development of an ICZM programme;
- Creation of a team to formulate the ICZM plan; and,
- Defining new, or revised, management programmes through a review of institutional capabilities (Coccosis, Mexa & Collovini 2001; Cummins, Mahony & Connolly 2004; Olsen, Tobey & Kerr 1997).

This stage enables a judgement on how ICZM can initiate change for the better and move towards the next stage.

### **Programme preparation**

Depending on the scale and nature of the intervention, ICZM can be initiated through different types of instruments such as a national policy or strategy outlining the general elements that need to be translated to a smaller scale or a more detailed plan and programme of action. In this phase the necessary institutional arrangements are also defined. Indeed implementation of strategies depends on the existing administrative and regulatory framework. In practice, the strategies elaborated include various policy proposals and measures, which in certain cases require institutional settings (Coccossis, Mexa & Collovini 2001; Cummins, Mahony & Connolly 2004; Olsen, Tobey & Kerr 1997).

The tasks of this stage are.

- Defining the boundaries of the proposed management area;
- Defining management objectives, strategies, and actions;
- Defining the directions and levels of integration;
- Planning the institutional arrangements; and,
- Performing early implementation actions (Cummins, Mahony & Connolly 2004).

### **Formal adoption and funding**

Funding for ICZM initiatives tends to occur on a piecemeal basis. For the ICZM initiative to be operational, it needs to be formally adopted and supported by the necessary financial resources. The potential benefits to be gained from ICZM are often overshadowed by the need to secure more funding to ensure continuation of the ICZM project process (Coccossis, Mexa & Collovini 2001; Cummins, Mahony & Connolly 2004; Olsen, Tobey & Kerr 1997).

The tasks for this stage are:

- Adopting a formal management plan and governance process;
- Securing adequate funding for implementation; and,

- Defining the authorities and agencies with responsibilities for implementation (Cummins, Mahony & Connolly 2004).

### **Implementation**

In this phase the activities and the projects associated with the ICZM initiatives are put into operation. In fact, ICZM programmes can be implemented at a number of levels including at national, regional and local levels. The level of implementation should be selected according to the geographical scope of the problems to be managed (Coccosis, Mexa & Collovini 2001; Cummins, Mahony & Connolly 2004; Olsen, Tobey & Kerr 1997).

The tasks for this stage are:

- Promoting compliance with regulations and agreements; and,
- Implementation of sustainable development practices (Cummins, Mahony & Connolly 2004).

### **Monitoring and evaluation**

The final stage of the ICZM process involves the monitoring and evaluation of the programme once it has been implemented. This phase can be defined as *“the periodic re-measurement of appropriate parameters to determine the effects of particular management strategies or policies, and the response of the system to changes in the wider environment”* (Brochier & Giupponi 2001, p13). To be more specific, measurement of the success of ICZM requires an established baseline from which progress can be measured, including physical, biological, social and economic data and information (Olsen 2002, 2003; Olsen, Tobey & Kerr 1997). Then the results of the ICZM initiative are documented and disseminated, management issues are reassessed and new priorities identified, and, where needed, the ICZM initiative is subject to adjustments and redirection (Cummins, Mahony & Connolly 2004; Olsen, Tobey & Kerr 1997). The tasks for this stage are:

- Evaluation of governance process and outcomes;

- Reassessing issues and strategies; and
- Preparing adjustments to the plan and governance processes (Cummins, Mahony & Connolly 2004).

Cummins, Mahony and Connolly (2004) also suggest that the success of ICZM programmes can be evaluated according to performance evaluation, evaluation of management capacity and outcome evaluation.

*Performance evaluation* addresses the quality of execution of an ICZM project in relation to the funding requirements. This is probably the most frequent type of evaluation of ICZM.

*Evaluation of management capacity* is intended to improve project design and to make adjustments to the internal working of a project or programme.

*Outcome evaluation* assesses the impacts of ICZM programmes on the physical coastal environment as well as looking at impacts on the social fabric.

To sum up, the ICZM process is a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones through the participation of all relevant actors who are described in the next subsection.

#### **2-1-4 ICZM actors**

ICZM affects many different sectors of society and involves many different scientific disciplines. The significant stakeholder (actors) groups have been described by the UNEP (2006) as predominantly of three kinds:

*Public Authorities* (at national, regional and local level), who have the overall responsibility for managing public resources, including:

- Politicians and parliamentarians
- Relevant ministries or agencies (national development, finance, planning, environment, water, agriculture, health, public works, transport, energy...etc)
- Judiciary (legislators and regulators)

*Users* (mainly at regional and local level), who extract personal benefits from the resources, including:

- Private sector (business and industry, services and financial sectors)
- Agriculturalists
- Tourism associations
- Local and indigenous communities

*Interest groups* (mainly at regional and local level), who help both authorities and users in specific tasks, including:

- NGOs, such as conservation and youth groups
- Researchers and scientists
- Financial institutions and potential investment partners, both domestic and international
- Media

To sum up, ICZM affects many different sectors of society and involves many different actors. So the success of ICZM depends on coordination and collaboration of all actors' efforts (Cicin-Sain & Belfiore 2005).

### **2-1-5 Synopsis**

This section was designed to contribute the first objective of this research which is to understand the complex process and decisional context of ICZM. The ICZM process is a dynamic, continuous and iterative process. ICZM like some forms of spatial or collaborative planning and development, it holds the promise of being a vehicle for progressing towards sustainable development based on a participatory process that involves all stakeholders (Christie 2005; Lane 2006). So the success of ICZM depends on achieving integration between actors. However, as achieving integration in coastal management is always difficult, to what extent can ICZM be implemented in developing countries? The next section explores the implementation of ICZM in developing countries.

### **2-2 ICZM in developing countries**

Since 1990 there has been a considerable increase in the number of developing countries involved in the ICZM process at both the national and local level (Kosiek,

Bastard & Bănică 2003). However, Trumbic et al. (1999) pinpoint that the majority of developing countries were at a pre-implementation phase. The reasons for this have been illustrated by many experts. Jorge (1997) argues that many government agencies in developing countries lack the necessary experience, resources, and institutional stability to fulfil their role in ICZM. Furthermore, often the national and local institutions in developing countries have little to do with each other (Hale 2000). Again Hale et al. (2000) argue that a lack of human and institutional capacity, coupled with a lack of local commitment to coastal management initiatives, is a major barrier to ICZM in developing countries. Above all, IACCARINO (2000) asserts that the main cause of ICZM policy failures in many developing countries are due to integration failures. Riancho et al. (2009) suggest that the Mediterranean developing countries have not fully implemented ICZM as a result of lack of stakeholder involvement and public participation and integration strategies. In fact many ICZM schemes in the developing countries have failed at the implementation stage due to difficulties typically found in most developing countries, such as information and communication gaps, restricted technical and financial capacity, strong sectoralism and limited democratic representation (Brugere 2006). Furthermore Olsen (2003) highlights that the number of ICZM initiatives in developing countries that have succeeded in making the transition from planning to implementation remains small or even non-existent. For instance Abul-Azm, Abdel-Gelil and Trumbic (2003) argue that developing countries are suffering from inadequacies in the capacity of local institutions. Furthermore, developing countries have not yet established clear and well structured mechanisms that will ensure sustainable coastal environment, development and resource utilization. In most cases there is no authoritative body to coordinate these activities and there is no established mechanism for resource use conflict resolution (Masalu 2003). In this regard White et al. (2005) identify that the common problem in all developing countries is lack of integration. So there is a need to identify means to support integration in order to strengthen their ability to implement ICZM.

To sum up, developing countries have been involved in the ICZM process since 1990, however, according to many experts, developing countries have failed to implement ICZM due to integration failure. Needless to say, ICZM is everywhere a challenge to apply, but particularly so in developing countries which suffer from

highly centralized systems of governance and lack of effective stakeholder involvement and public participation (Caffyn & Jobbins 2003; Hale et al. 2000; Olsen, Lowry & Tobey 1999; Pedersen et al. 2005). As a result, there is a need for literature in the ICZM field to take the nature of the governance system in developing countries into consideration (Caffyn & Jobbins 2003). For instance, many of the evaluations which have been undertaken advocating the adoption of ICZM have been undertaken within the context of developed countries (Belfiore et al. 2006).

In conclusion, achieving successful ICZM is complex, especially in developing countries. Furthermore, there is no evidence to suggest that ICZM is grounded in a theoretical concept that allows for the exploration of the relationships between various actors to create or modify a network in which all the actors (individuals, agencies and authorities) agree that the network is worth building and defending. Therefore, ICZM evaluation needs an analytical approach that investigates the complex composition of the ICZM network, seeks to understand how the network gains its strength and how the network achieves its scope in order to understand why many ICZM programmes, particularly in developing countries, have failed to develop a practical approach.

### **2-3 Actor–network theory**

This research suggests that actor–network theory (ANT) is an appropriate analytical framework that can be used to explore the ICZM initiatives. Paul and Amanda (1999) highlight the fact that ANT can be usefully applied to environmental management networks as it allows the researcher to explore relationships between the actors, and the ways they are linked together in addition to exploring the effect of financial resources, institutional arrangements and legal framework on their interaction (Duijn 2005).

This section is concerned with the ANT context in order to understand its approach as an analytical tool that can be used to analyse how various actors are involved in a network. To be more specific, the work in this section aims to answer this question: How can the ANT approach help to analyse the initiation and the processing of a network?



Thus this section is divided into four subsections: The first subsection aims to clarify the ANT context (Subsection 2-3-1). Then, the ANT principles are illustrated (Subsection 2-3-2). The third subsection is concerned with understanding how various actors are enrolled and involved in a network, i.e. translation process (Subsection 2-3-3). The final subsection highlights the questions that need to be answered in order to explain and investigate any network based on the ANT approach (Subsection 2-3-4).

### **2-3-1 ANT context**

ANT was developed in the early 1980s as a contribution to the sociology of knowledge (Fox 2000). ANT, or 'the sociology of translation', was developed by sociologists of science, notably Michel Callon, Bruno Latour and John Law, has its provenance in the post-structuralist vision of society generated by the interaction of many semiotic systems and orderings (Brooks 2005; Duim 2005; Woods 1998). *"Actor-network theorists provide a means of understanding how everyday practices are transmitted into wider processes of social transformation, but without falling back on an all-encompassing theoretical order"* (Duum 2005, p85). In this sense, actor-network theory can be placed broadly within a postmodern mode of thinking that emphasizes the local and situated nature of all knowledge (Bill & Alan 2002)

With respect to ANT as a theory, Latour (cited in Kaljonen 2006), argued that ANT is not a theory but some kind of infra language that would encourage researchers to imagine a world where socio-natural relations are multiple, messy and complex. It is not a theory of the world, but mere sensitivity to certain features in the world. These features include, most importantly, the role of material elements such as the financial resources in the creation of relationships and distribution of power (Bill & Alan 2002; Kaljonen 2006). In fact it could be observed that ANT has become a popular way of explaining how modes of action become established in scientific and policy domains. Essentially, ANT reflects the way in which particular technological and scientific models gain acceptance as normal custom and practice, arguing that, as a result of successive agreements and decisions, actors become committed to a conventional wisdom or enduring mindset which others must accept if they wish to join mainstream practice (Paul & Amanda 1999).

ANT is a concept that allows for the exploration of the relationships among and between the various actors and creates or modifies a network in which all the actors agree that the network is worth building and defending (McLaren Loring 2007). Without such pre-conditions the network will not achieve its objectives and will not be efficient (Duim 2005). Indeed Law (1994), (cited in Woods 1998), explains that ANT is an approach that tells stories about the processes of ordering that generate effects. ANT provides analytical tools for explaining the process by which networks are created and constantly re-configured (Callon & Neil 2001). Additionally, ANT investigates the complex composition of networks, seeks to understand how the networks gain their strength and how they achieve their objectives (Duim 2005). Thus ANT can be used to explore the interrelationships between a set of actors who have been successfully or unsuccessfully translated or enrolled by a dominant and powerful focal actor as well as the reflection of this process on the achievements of the network. In this regard the focal actor can be an individual or an institution or a combination of the two. By working collaboratively with other actors, the network is collectively able to gain strength and act on its own, with or without the direct or indirect support of the focal actor (Morris 2004).

In actor–network theory, the concept of actor and network are connected and one cannot be defined without the other. So the network contains three aspects – actors, intermediaries, and the focal actor or the macro actor. *Firstly, the actor* could be defined as an entity (individuals, agencies and authorities) able to associate with the other actors within the network (Paul & Amanda 1999, p330). Actors take their form and acquire their attributes as a result of their relations with other actors (Bill & Alan 2002; Duim 2005). *Secondly, the intermediaries*, could be defined as means or tools (institutional arrangements, legal framework and financial resources) that connect actors into a network and define the respective positions of the actors within the networks (Duim 2005, p98). This means they help to define the relationships between the actors and maintain the interaction between them. Through intermediaries, actors communicate with one another, and that is the way actors translate their intentions into other actors (Duim 2005). *Finally, the focal actor* is often the hero of the story. In other words the focal actor can coordinate and lead the other actors, giving each an identity, interests, a role to play, a course of action to follow and projects to carry out (Burgess, Clark & Harrison 2000). Moreover, the

focal actor could be at the same time an actor whose activity is networking heterogeneous elements and a network that is able to redefine and change what it is made of (Bill & Alan 2002; Duim 2005).

The methodological result of this perspective is that no a priori assumptions will be made about who will act in any particular set of circumstances. Thus, any pre-given structural explanations for social phenomena should be avoided. As action arises within a context, it can only be understood from that context (Kaljonen 2006). This is meant that action will be the result of network construction, and networks are constructed out of all concerned actors, the intermediaries (such as the institutional arrangements) and relationship between actors (i.e. the networking).

### **2-3-2 Actor–network theory principles**

With regard to the network construction, this subsection is concerned with the ANT principles which include three aspects: the principle of symmetry, the stability of the network, and network limits or boundary.

**Principle of symmetry:** Law (1994), (cited in Duim 2005), highlighted the main principle for ANT as the principle of symmetry which means that everything you seek to explain or describe should be approached in the same way. By doing so, the theory grants the process of building the network, the capacity to join the network, the intermediaries and the actors the same weight in the analysis (Brooks 2005; Duim 2005; Fox 2000). Therefore in analysing any network the focal actor tactics towards building the network, the capacity of the focal actor and other actors to interact, the intermediaries, and relation between actors should be evaluated in order to understand why the network succeed or failed in achieving its own objectives (Duum 2005). For instance ANT assumes that all the elements in a network should be described in the same terms. The rationale for this is that differences between them are generated by the relationships within the network (Jackson & Wolinsky 1996; Murdoch 2000). Furthermore, Latour (1994) (cited in Bill & Alan 2002), argues that the consequence of this is that society and technology cannot be conceptualized as ontologically separate (though interrelated) entities.

To be more specific, ANT proposes a theoretical shift in emphasis away from the centrality and primacy of the actors without due consideration being given to the links and relation between actors. In particular actor–network theory's theoretical

constructs place great reliance on the tracing of complicated networks and associations among actors. Likewise, the ontological aspects of actor–network theory, which are at one and the same time the reason for a substantial critique and the source of its explanatory power (Somerville 1999).

From this respect the principle of general symmetry has faced criticism from several fronts. The critics argue that we are by no means able to follow the actors in a symmetrical manner. The principle only renders power back to natural scientists or the loudest speakers (Kaljonen 2006).

As a result of this debate, Duim (2005) when he used ANT to study and analyse sustainable tourism development emphasises that it is more appropriate to evaluate the actors approach to building the network, the actors capacity to develop and process the network and the intermediaries and the relationship between actors in order to understand the way things work together. But the question how these elements could be investigated in ICZM is a matter of further investigation (see chapter 3).

**The stability of the network:** the network is defined as stable when it has strong, stable ties between actors (Tilson & Lyytinen 2005). Kaljonen (2006) mentioned that the stable networks should include agents, devices, texts, relatively standardized sets of organizational relations, social technologies, boundary protocols or organizational forms. Also, a stable network contains intermediaries which induce stability and facilitate mediation, this could be through institutional and legal arrangements, policy documents, scientific devices, codes of practice and financial resources (Paul & Amanda 1999). Generally, though, the process is one of black boxing where beliefs, policies and practices, macro actors, organizations and documents become normative (i.e. are taken as accepted wisdom by all partners) and thus are progressively less open to negotiation (Paul & Amanda 1999). In other words, actors define each other through the interaction with the intermediaries they put into circulation. Essentially, the focal actor defines the relationships between actors and intermediaries. As the network develops, certain actors, whether focal actors or macro actors, become more important as representatives of the network, and gain the right to act on behalf of others in order to achieve the network objectives. At this point the network achieves its stability (Kaljonen 2006). This approach sees networks as sets of power relations. However, Latour (1986), (cited in Murdoch

2000), explains that power lies not with the macro actors themselves but in the links such as the legal frameworks and the institutional arrangements that bind them together. ANT proposes that power is exercised by complex associations between the social, natural and technological networks. From this vision comes the central principle of actor–network theory, that in order to achieve their intended outcomes and gain the stability of the network, entities have to enrol other actors into a network, who accept the focal actor as the representative of the whole network and its objective (Murdoch 2000). This principle highlights the need to define the network limits or boundary.

**Network limits or boundary:** As Latham (2002), (cited in Duim 2005), asserts, we cannot assume that we know how long an actor–network should last, or at what scale it operates, until we have actually studied the relations through which it is made. By this is meant that the effort must be made to follow the path of the network and see where it takes us.

However, Woods (1997), (cited in Duim 2005), asks where should we draw the limits, or do we accept the network as infinite? Critics also argue that ANT does not provide clear methodological advice as to where to stop (Kaljonen 2006). It does not make sense to follow the actors ad infinitum (Kaljonen 2006). For ANT theorists such as Callon and Latour, this question first and foremost should be addressed at an empirical level. As actors and focal actor are naturally embedded in open relationships, they cannot be artificially limited by the scope of any particular analysis (Duim 2005). So the study and the analysis of any network should include all the elements that are necessary to achieve and maintain the network objectives (Murdoch 2000).

To sum up, what actor–network theorists thus seek to investigate based on these principles are the means by which associations come into existence and how the roles and functions of subjects and objects (actors, networking and intermediaries) are attributed and stabilized. Actor–network analysts tend to work through detailed, specifically situated case studies because these allow for the close observation of the processes of building networks (Duim 2005). In summary, they are interested in processes of ‘translation’. That is, the methods by which focal actors form associations with other actors establishing a stabilized network.

### 2-3-3 Translation

This subsection is concerned with understanding how various actors are enrolled and involved in a network, i.e. the translation process. Clearly, translation rests on the idea that actors within networks will try to redefine the meaning of other actors, 'speaking' on their behalf, and enrol (manipulate or force) the other actors into positions with them. In other words, translation of other actors will be completed when an actor's strategy is successful and it has organized the other actors to achieve a stable network (Somerville 1999).

Furthermore, translation builds networks from entities (Burgess, Clark & Harrison 2000). In building its network, the focal actor translates the other actors, giving each an identity, interests, a role to play, a course of action to follow and projects to carry out, as well as establishing, more or less, stable relationships between the actors. As Callon (1986), (cited in Duim 2005), stated, translation is a definition of roles and the delineation of a scenario. However, resistance is possible and translation is only achieved when actors accept the roles defined and attributed to them (Bill & Alan 2002). For instance Burgess, Clark and Harrison (2000) highlight that building networks depends on the focal actor and other actors capacities to direct the movement of intermediaries such as texts, technologies, materials and money. Burgess, Clark and Harrison (2000) go further in detailing how the network can be established, this may happen based on the focal actors motivation, collectively by all the other actors or jointly between the focal actor and other actors. By this it is meant that building the network could be top-down (by the focal actor), bottom-up (collectively by all the other actors) or balanced approach (jointly between the focal actor and other actors).

The translation process creates a shared space that was not present before the initiation of the network (Burgess, Clark & Harrison 2000). Callon and Latour clarify that the core of ANT analysis is to examine the process of translation where actors align the interests of others with their own (Duim 2005; Tilson & Lyytinen 2005). Translation follows four phases. While not every translation process necessarily involves all these stages. Indeed in reality many of the phases may overlap and be iterative. Therefore, translation is an endeavour that may be achieved, but it always faces resistance and it can never be taken for granted (Duim 2005). Figure 2-2 shows an idealist version of the ANT translation process which contains four phases.

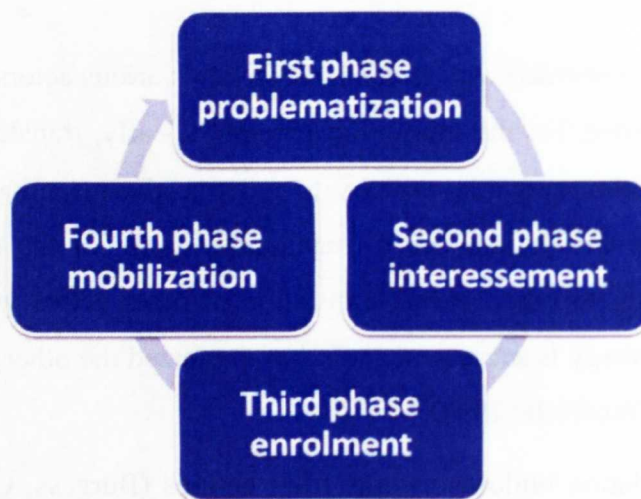


Figure 2-2 ANT translation process

Source: (Duum 2005; Tilson & Lyytinen 2005)

### **First phase: problematization**

A focal actor based on his own capacity tries to become essential to other actors through framing the problem and defining the identities and interests of other actors that are consistent with its own interests. The focal actor renders itself indispensable by defining a process under its control that must occur for all actors to achieve their interests (Duum 2005; Tilson & Lyytinen 2005). Callon (1986) (cited in Fox 2000) calls this process an Obligatory Passage Point (OPP). In other words the OPP is typically in the direct path of the focal actor in the pursuit of its interests. Other actors may have to overcome some obstacles to pass through the OPP.

Thus, the definition of the interests of others and of the OPP can be thought of as part of an actor's strategy for aligning the interests of others with its own. Other elements of the strategy might include creating incentives to encourage other actors to overcome the obstacles in the way of passing through the OPP (Paul & Amanda 1999; Tilson & Lyytinen 2005).

### **Second phase: interressement**

During the second phase of translation the focal actor executes strategies to convince other actors to accept its definition of their interests by using its own capacity (Burgess, Clark & Harrison 2000; Tilson & Lyytinen 2005). In other words, interressement is the process of translating the metaphors and concerns of a scheme

into that of others, and then trying to discipline or control that translation in order to stabilize an actor network (Duim 2005).

### **Third phase: enrolment**

This phase of translation is the time when another actor accepts the interests defined by the focal actor. Enrolment also includes the definition of the roles of each actor in the newly created actor network, which means that it is the successful distribution of roles as proposed in the initial problematization (Duim 2005).

### **Fourth phase: mobilization**

The final phase of translation is the moment when the successful translation of a network of entities happens and achieves a stable network (Duim 2005).

To conclude, translation is the method in which actors strive to distinguish and model the network. The translation process is started by the motivation of the focal actor, based on their capacity to build a network. The focal actor enrolls other actors, and gives each of them a role to play. When the network is established, the focal actor seeks to enrol more actors in order to achieve a stable network. Then, the stable network could lose its stability as a direct result of facing new issues that were not considered by the focal actor from the beginning which led the focal actor to start the translation process again from the beginning.

## **2-3-4 Synopsis**

This section was designed to understand the ANT approach as an analytical tool that can be used to analyse how various actors are involved in a network. To be more specific, the work in this section aims to answer this question: How can the ANT approach help to analyse the establishment and stabilization of a network?

To conclude, it is argued that ANT provides a useful analytical tool for explaining and investigating the process by which networks are created, how the networks gain their strength and how they achieve their objectives. In a word, considering the ANT approach as a tool to analyse any network highlights, these questions that need to be answered in order to explain and investigate any network:

- Who is the focal actor in this network?
- Does the focal actor have the capacity to enrol other actors?



- What approach does the focal actor use in order to enrol the relevant actors?
- What approach does the focal actor use in order to achieve the stability of the network?
- Are all the interested actors that are concerned in the process necessary to achieve and maintain the objectives involved in the network?
- Are there any mechanisms to build the capacity for practicing integrated and network-based management?
- Do the actors have specific responsibility in the network?
- Does the relevant information flow freely from and between actors?
- Are there any efficient means in place to resolve conflicts between stakeholders?

The next section uses the above question in order to consider ICZM from an ANT perspective.

## **2-4 Considering ICZM from an ANT perspective**

With respect to the ICZM context and the ANT context, this section is designed to answer this question: How can the ANT approach help to analyse ICZM initiatives?

To be more specific, this study adopts the basic terminology of ANT and focuses especially on the processes of building the ICZM network. In other words, the research is not intended to be a theoretical explanation of ANT, but attempts to evaluate the ICZM initiatives in one of the developing countries, Egypt, by considering ICZM from an ANT perspective.

The main idea behind using ANT to explore ICZM in developing countries is that it is useful in understanding why planning and management endeavours succeed or fail as a direct result of network integrity recognizing the important role assigned to the focal actor (McLaren Loring 2007). So it can be argued that ANT will help to understand why many ICZM programmes, particularly in developing countries, have failed.

ANT provides a tool for understanding ICZM as a network combining various actors. The ANT approach, based on the questions illustrated in the previous section,

provides a clear framework that can be used to analyse ICZM initiatives. In fact, one of the main principals of ICZM is having one agency to take the lead in initiating and processing the ICZM. This is the same notion as that behind the ANT approach, which is built around having a focal actor who initiates and manages the network. Furthermore, this approach clarifies how actors could define and work with each other by understanding the direction in which ICZM, as a network is formulated and processed, from a top-down or bottom-up approach, or both. It can also explore how the capacity of each actor in the network and the capacity of the focal actor could affect the stability of the network as it strives to achieve its aims. How the ICZM network can be built based on actors and intermediates can also be evaluated. In this regard, ICZM initiatives could be analysed as a network that contain various actors (public agencies, people, authorities, NGOs, etc.), an institutional and legal framework that helps to assign the role of each actor in the network, financial resources which are the main means for the implementation of ICZM. Moreover, the ANT approach investigates the role of the focal actor in building and running the network. This means investigating the lead agency, which takes a lead in initiating and coordinating the ICZM process. Furthermore, to achieve the stability of the network, the actors should understand their roles and participate with the focal actor in building and running their network. In other words, the networking potentialities concept in the ICZM should be investigated. To put it more simply, the notions of participation and integration should be examined in order to understand the complex networking in ICZM initiatives. In addition, the ANT approach is based on an actor and a network. Each actor in this network could be a focal actor from another network. So to evaluate the ICZM initiatives, the decentralization concept should be investigated in order to understand the stability and the limitations of the network.

By analysing ICZM based on the ANT approach means evaluating the strategy for the focal actor to initiate and process the network (*ICZM approach*), the capacity of the focal actor and other actors to manage their network (*capacity development*), the significance role of *intermediaries* which facilitate the establishing and running the network (*institutional arrangements and legal framework* as well as the *financial resources*), and the *networking* i.e. the interaction between actors in the network (*participation, integration and decentralization*).

To sum up, analysing ICZM based on the ANT approach contains an analysis of seven factors:

- ICZM approaches
- Capacity development
- Institutional and legal arrangements (Institutional framework – Legal authority)
- Financial resources
- Participation
- Integration
- Decentralization

## **2-4 Conclusion**

In conclusion, the ICZM process is a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones through the participation of all relevant actors. So the success of ICZM depends on building a network containing all the interested actors. However, applying ICZM is always difficult and complex especially in developing countries. Nevertheless, there is no evidence that ICZM is grounded in a theoretical concept that allows for the exploration of the relationships between various actors to create, or modify a network in which all the actors (individuals, agencies and authorities) agree that the network is worth building and defending. Therefore, ICZM needs an analytical approach that investigates the complex composition of ICZM as a network and seeks to understand how the network gains its strength and how the network achieves its scope in order to understand why many ICZM programmes, particularly in developing countries, have failed. From this point it is hoped to develop a practical approach that enhances the implementation of ICZM in developing countries. The research suggests that ANT is an appropriate analytical framework that can be used to explore ICZM initiatives. In fact, ANT provides analytical tools for explaining and investigating the process by which networks are created, how the networks gain their strength and how they achieve their objectives. This chapter has explained how the ANT approach can be

used as a tool to analyse any network, then developed seven factors based on considering ICZM from an ANT perspective. These factors are considered as the critical factors that affect ICZM effectiveness (the factors that measure whether ICZM as a network could achieve its objectives). The next chapter will explore these factors in detail and suggest how they can be measured.

**Chapter 3: Developing the conceptual  
framework**

### **3- Developing the conceptual framework**

The previous chapter was concerned with the first and second objectives of this research. It explained how the ANT approach can be used as a tool to analyse any network. It then suggested seven evaluation factors based on a consideration of ICZM from an ANT perspective. It concluded that analysing ICZM based on the ANT approach means analysing the ICZM approach, the capacity development, the intermediaries and the networking. This chapter is concerned with the second objectives of this research, which is to understand how various actors should be involved in integrated coastal zone management. To be more specific, this chapter develops the conceptual framework which will be used to evaluate ICZM initiatives in Egypt. For this purpose, this chapter consists of five parts. The first (Section 3-1) provides an overview of ICZM approaches in order to answer this question: What are the approaches for initiating and processing ICZM? After this the capacity development and its significant role in enhancing the implementation of ICZM is illustrated (section 3-2). The focus is to answer the question how can the capacity of the focal actor and other actors affect the initiating and processing of ICZM? The third part (sections 3-3 and 3-4) is concerned with the role of intermediaries paying particular attention to how the intermediaries can affect the initiating and processing ICZM? Section 3-3 discusses the significant function of the institutional arrangements and the legal framework. Then, the importance of the financial resources in ICZM is provided (section 3-4). The fourth part (sections 3-5, 3-6 and 3-7) investigates the interaction between actors (networking) in order to answer this question: How can the interaction between actors (networking) in the network affect the initiating and processing of ICZM? This part contains three sections. In the first section (3-5) participation in ICZM is explored. The nature of integration is investigated in the second section (3-6). Then, the next section (3-7) discusses decentralization. The final section (3-8) draws all these perspectives together in a concluding section.

### **3-1 ICZM approaches**

There are two major directions in which ICZM is continuously formulated and tested: from global to national and (to some extent) local level, and from local to national and (to a certain extent) global level. These directions reflect the two perspectives of top-down and bottom-up approaches (Lau 2005), which means that efforts initiated by central government are called 'top-down', while those initiated by local groups are called 'bottom-up'.

In fact, the extent of involvement of government and local groups in providing the initial leadership for ICZM differs widely between nations (Brachya et al. 1994). For example the Sri Lanka coastal management initiatives were initiated at the national level using the top down approach. The national government defined its policy and provided a framework for local initiatives and implementation. However, in Tanzania coastal management initiatives started from the bottom up. A number of local area-specific programmes were started in the absence of any national policy or framework, and the national government worked to put an umbrella over such programmes and address issues that have arisen from these local initiatives (Hale 2000).

In this section, the approaches to initiate and process ICZM are discussed in order to understand how the strategy of the focal actor can affect the network stability. The work in this section answers this question what are the approaches for initiating and processing ICZM? The section is divided into four subsections: The first defines and discusses the top-down approach (subsection 3-1-1). The second delineates the bottom-up approach (subsection 3-1-2). The next subsection explores the balanced, or the two-track approach which is a combination of both top-down and bottom-up approaches (subsection 3-1-3). Finally the synopsis of this section is illustrated (subsection 3-1-4).

#### **3-1-1 Top-down approach**

A top-down approach focuses upon central government, its procedures and structures, and the need for national policy reform. In fact, the World Bank (1996) recognizes that active support from national governance is very important to ICZM. In the same way, Cummins et al. (2004) argue that the top-down approach to coastal

management has the advantage of ensuring that things get done according to specified time frames, and the involvement of experts should promote good decision making.

On the other hand, many of the ICZM experts argue that using a top-down approach hinders the local stakeholders' motivation to participate in coastal management (Gore 2007). More particularly, Barker (2005) argues that the top-down approach in coastal management allows few opportunities for community involvement. Furthermore, Fraser et al. (2006) suggests that the top-down process in coastal management alienates local community members and fails to capture locally important factors. For instance, developing coastal management plans has often been the domain of highly trained experts who are hired by the central government for this task. It is generally perceived that this approach has led to a number of failures as these managers rarely have the benefit of detailed local knowledge and fail to generate community support for policy changes (Fraser et al. 2006). Thus, failure to address community participation as a result of using a top-down approach will result in community resistance too and protest against ICZM (Wilson & Wiber 2009). In the same way Lau (2005) addresses the problem of using this approach as generating users' opposition, as they reject being dictated too about what they should do.

Furthermore, Davos et al. (2002) argue that introducing ICZM in a top-down manner has proven less than effective as well as worsening stakeholders' willingness to cooperate. For example, Caffyn and Jobbins (2003) argue that local people in Morocco and Tunisia had little ability to enforce accountability on regional coastal officials due to the top-down coastal governing process. Such problems are not just confined to developing countries. For example, Barker (2005) argues that one of the most significant weaknesses of current ICZM practice in Scotland has been an emphasis on a top-down approach which hinders community participation in coastal management.

Furthermore, Anker et al. (2004) argue that a top-down approach to coastal management dominated by national level authorities slows development towards increased vertical integration and involvement of the end users. For example, Tompkins et al. (2002) highlight that in Trinidad and Tobago, in the eastern of Caribbean, the National Environmental Policy and establishment of an implementation agency was a necessary pre-requisite before it could access World



Bank funds. Such conditionality causes agencies to become more top-down in their operations as they strive to achieve objectives set for them by external players, rather than by internal needs. This system blocks downward integration by severing the possible space of dependence on agencies below, reducing the potential for inclusion of other groups in decision making and, again, contracting the space of exchange (Tompkins, Adger & Brown 2002). Thus, McGlashan (2002) pinpoints that ICZM is a completely different tool to the old top-down approach of managing coastal problems.

To conclude, using the top-down approach in ICZM tends to alienate people and hinders stakeholder participation. This has led to a failure to address the fundamental problems at the local level, as policies and implementation arrangements are mainly prescribed by executives who are less familiar with local conditions.

### **3-1-2 Bottom-up approach**

A bottom-up approach works to enable change at the community, site and local government level, with the hope that success can solve locally urgent problems, encourage resource users to become resource managers, and produce good practice models that can be transferred and replicated across a nation (Hale 2000). In other words, the bottom-up approach puts emphasis on the active participation of the local stakeholders in planning, implementation, monitoring and evaluation (Anker, Nellemann & Sverdrup-Jensen 2004). The bottom-up approach is a mechanism whereby people initiate and handle the entire job of planning, policy making and managing a programme independently from external organizations. However external organizations can provide help in the form of resources, support and technical advice (Coccosis et al. 1999). More realistically the bottom-up approach conceives of policy as an output of the implementation process, reflecting inevitable modifications and mediations among stakeholders during the implementation process that may improve policy outcomes (Joseph, Gunton & Day 2008). In the United States, for example, the earliest efforts at coastal management – those in the San Francisco Bay area – started at the local level, where the problems and the need for action were most obvious. Shortly after, the state of California initiated a state-wide effort based on the San Francisco experience (Cicin-Sain & Knecht 1998). Within a year or so, several other states in the US had started coastal management programmes. These early efforts were soon complemented by legislation at the

federal level, one goal of which was to strengthen and support the ongoing state and local efforts. In its present form, the US effort involves the national and state governments, with state governments often including local governments as partners in joint efforts (Cicin-Sain & Knecht 1998).

Fraser et al. (2006) argue that the formalization of a bottom-up approach based around community involvement in coastal management has been created as a result of the failure of the top-down approach. Furthermore, it was argued that benefits produced by local level initiatives are even more likely to create long-term support for ICZM (Brochier & Giupponi 2001), although community involvement in ICZM takes more time and effort than a top-down approach. However, the role of communities is directly related to the levels of successful implementation of coastal management initiatives (Cummins, Mahony & Connolly 2004). Likewise Davos et al. (2002) highlight that ICZM can be effective only with a bottom-up approach that seeks to identify potential conflicts and strategies for the local level management in order to maximize the potential for voluntary cooperation among stakeholders. Indeed, most efforts in north-west Europe, which have successfully applied ICZM, can be characterized as bottom-up initiatives, generally involving considerable voluntary community effort as well as hands-on approaches, simple techniques and activities that are heavily dependent on human resources, but low on technology (O'Hagan & Ballinger 2009).

To conclude, the bottom-up approach matches the wider recognition of the need for active community participation in coastal management with the aim of achieving success across the spectrum. However, this process runs the risk of being time and resource intensive and may create non-standardized data that prevent lessons from being transferred.

### **3-1-3 Balanced (two-track) approach**

The idea of the balanced approach is not only a strong management involvement of local people ('bottom-up'), but also government-driven ('top-down'). Success comes from finding the best balance of these two approaches (Kelleher 1999), which means bringing the top-down and bottom-up approaches together in a synergistic framework (Coccosis, Mexa & Collovini 2001). The power of this approach lies in creating a dialogue that links the tracks and promotes a sense of shared purpose at all

levels (Hale et al. 1999). The modern synthesis of these two models acknowledges the benefits of creative modification through stakeholder involvement and stresses the importance of adopting the implementation model to the context (Joseph, Gunton & Day 2008).

The success of implementing ICZM is based on the success of merging the top-down approach with the bottom-up approach (Walmsley 2005). For instance, O'Hagan and Ballinger (2009) argue that the ideal approach to manage the coastal zone would be a mix of both 'bottom-up' and 'top-down' approaches. In the same way, Humphrey and Burbridge (2003) emphasize that there is a clear need to establish a better equilibrium between 'top-down' and 'bottom-up' approaches in order to achieve success in ICZM activities.

Kay and Alder, cited in (McGlashan 2002), argues that successful coastal management programmes integrates the views of both the top and bottom decision-making levels with those of the stakeholders in the management of the coast. In other words, using the 'two-track' approach to coastal management has been successfully applied in US, Australia, the Philippines, New Zealand, Ecuador, Tanzania and Canada (Hale et al. 1999).

Although each approach on its own can guide appropriate management actions, attempts should be made to combine the two approaches wherever possible (Belfiore et al. 2006). In fact, the national level is important as it conditions the status of a local programme, is potentially involved in finance matters and is able to provide guidelines for a whole country. The national level thus gathers the feedback derived from the local programmes and projects them into a set of guidelines exactly suitable for that country (Lau 2005; Stead, Burnell & Gouletquer 2002; Tobey & Volk 2002). This is especially important, when in practice ICZM is very difficult for real and effective implementation which takes years, even where a government-sponsored approach is adopted. The intrinsic nature of ICZM requires the active involvement of local communities and stakeholders as actors in the ICZM network. It has to be implemented using both top-down and bottom-up approaches, using all possible tools and procedures (Coccosis, Mexa & Collovini 2001; Hale 2000; Humphrey & Burbridge 2003; Mikhaylichenko 2006). So the benefit of using both approaches is that capacity is increased within government departments as well as within local authorities, communities and stakeholders. This approach also aids

institutional integration as government departments at all levels have to work with other agencies that have responsibilities in the same area (O'Hagan & Ballinger 2009).

In the same way, UNEP (2006) states that effective and high-quality public and private consultation and participation should be encouraged in programme development, and during implementation and monitoring, to try to find an appropriate balance between top-down and bottom-up procedures. This principle is central to ensuring long-term legitimacy of the process and its outcome. For example, the National Sea Grant in the Latin America Program is a collection of national associations, panels, assemblies, boards and committees. The programme has a dual governance structure that is both bottom-up and top-down. This balanced approach, built into the organizational and governance structure of Sea Grant, providing the inherent flexibility to ensure that focused long-term strategies for impacting national-level marine and coastal priority issues are addressed, while at the same time allowing each programme to tackle important local issues (Matthew Wilburn et al. 2007).

To sum up, the two-track strategy combines both approaches by simultaneously and incrementally building capacity both within central government (both national and provincial) and at selected community sites. By this a balanced approach whereby the capacity and awareness of all actors is increased, in order to enhance their ability to accomplish their roles in the network, including that of the focal actor.

### **3-1-4 Synopsis**

One particular bone of contention is which of the approaches (top-down, bottom-up or balanced approach) a developing country should follow to achieve effective ICZM. Indeed, recognition of the need for ICZM and the first steps in forming a programme can take place at the community level or at the provincial, state or national government level. There is not just one single or correct ICZM approach. So all nations must make their own choices based on public interest, state capacity and social, political or economic impacts and the issues upon which the coastal programme needs to focus. However, it is important that the lead body of the ICZM procedure carries out an accurate stakeholder analysis, on account of the nature of ICZM which requires the active participation of local actors and communities and

the cooperation of national and local levels of governance (Brochier & Giupponi 2001).

Therefore, ICZM initiatives can be initiated by using either the top-down or the bottom-up approach. However, thereafter the ICZM process should be based on merging the top-down approach with the bottom-up approach in order to both strengthen and to achieve stability in the network.

Consequently, the research will investigate the ICZM initiatives based on two questions in order to clarify which approach has been used to initiate and run the ICZM network:

- Which approach has been used to initiate the ICZM initiatives?
- Which approach has been used to apply (process) ICZM initiatives?

### **3-2 Capacity development**

The previous section was concerned with the approach that can be used in order to initiate or run ICZM. In spite of this, initiating and processing ICZM is dependant on the capacity of the focal and other actors. This section discusses capacity development and its significant role in enhancing the implementation of ICZM. To be more specific, the work in this section aims to answer this question: How can the capacity of the focal actor and other actors affect the initiation and processing of ICZM?

One of the most important factors that affect ICZM effectiveness is the capacity of the actors. Capacity development is widely recognized as a central feature of ICZM (Sonak, Pangam & Giriyan 2008). Hills et al. (2006) argue that the development of awareness and capacity is important for the delivery of ICZM and spans from local communities to the national level. Chapter 17 of Agenda 21 in particular, declared that in order for nation states to deliver sustainable development in coastal areas they need to ensure that capacity is developed at local, national and international levels (UN 1993).

Capacity can be defined as the ability of an actor, a community or an institution to perform tasks effectively and efficiently, in a sustainable manner (Barker 2005; Christie 2005). This implies that capacity is the ability of ICZM actors to play their

role in planning and implementation, and that human resources are central to capacity development as this is the overall context within which organizations undertake their functions. In short, capacity is the power of the actor to perform or to produce (Jorge 1997; Pedersen et al. 2005).

Capacity development/building has been defined as *'the process by which individuals, entities (groups, organizations or institutions) and systems (countries or societies) increase their individual and collective abilities, (a) to perform core functions, resolve problems, and define and achieve objectives, and (b) to understand and deal with their development needs within a broad context and in a sustainable manner'* (UNDP/GEF 2003, p2).

Furthermore, Pedersen et al. (2005, p357) defined capacity development in ICZM programmes as the process by which individuals, groups, organizations and institutions (actors) increase their ability to:

- Network, assemble and analyse information from other actors;
- Identify needs and key issues which include performing core functions, solving problems, defining and achieving objectives;
- Understand and deal with their development needs both in a broad context and a sustainable manner;
- Formulate strategies to meet needs;
- Implement actions, and use resources effectively; and
- Monitor performance, ensure feedback, and adjust courses of action to meet objectives.

Regarding the capacity development in ICZM programmes, Hills et al. (2006) pinpoint that the capacity-building initiative would directly lead to improvement of the following aspects:

- Policy, legislation (relevant to a coastal governance system), and their implementation are more clearly defined and coherent;
- Institutional arrangements should become more integrated and adaptive to support a community's resilience to change;

- Roles and responsibilities of groups within ICZM arrangements are more clearly defined and understood;
- Integrity and inclusivity of the participation and engagement processes become more institutionalized within ICZM arrangements;
- Resources are generated to support regional ICZM planning and long-term certainty exists regarding future funding; and,
- Knowledge and information is more integrated and value-adding.

However, Hale et al. (2000) argue that a lack of human and institutional capacity is a major barrier to applying ICZM, particularly in developing countries. Additionally, Olsen (2002, 2003) argues that the main factor preventing progress in coastal management is not the availability of funding or knowledge of the social and ecosystem process at work, but the capacity of the institutions. Above all, failures are often attributable to an absence of a governance capacity required to successfully administer the facilities that have been built. In the same way, Wilson and Wiber (2009) pinpoint that one of the main factors constraining ICZM is having limited organizational capacity (Wilson & Wiber 2009). Lack of capacity is also clearly highlighted by Bastien-Daigle, Vanderlinden and Chouinard (2008) as a potential threat, if not a major obstacle to implement ICZM.

Building on these concerns a workshop on the development capacity in ICZM in the Asia-Pacific region identified three key themes that are vital ingredients in the development of capacity for ICZM programmes:

- **Identification of Training Needs:** a clear identification of the specific requirements of specifically target groups involved in ICZM. The training need to be contextualised to meet different needs.
- **Training Style and Content:** development of appropriate training style and approach as well as content to permit the delivery of the integrated knowledge and skills required for ICM implementation—the structures and processes of the training.
- **Training Impact:** the maximization and measurement of the impact of training, and any associated on-going sustainability issues—the outcomes of the training (Hills et al. 2006, p325).

These three themes were important in determining the effectiveness of ICZM programmes but the mode of achieving each of these aspects will vary depending on the type of ICZM programme and the region or locality in which capacity development will take place (Hale et al. 2000; Sonak, Pangam & Giriyan 2008). For instance Flanigan (cited in Krelling, Polette & DelValls 2008) proposes that capacity-building efforts, in a general manner, were more efficient when designed to meet particular needs of coastal actors, delivered at all levels, based on already existing training programmes and when theory was combined with field experience. In the same manner, Krelling, Polette and DelValls (2008) argue that a limited number of stakeholders are reached by the available capacity-building efforts due to the fact that the developers of such courses do not consider the real needs of the target group or even the most appropriate method to reach these actors. Thus, Stella Maris (2001) suggests that a network approach to deal with capacity development has proved to be an effective mechanism to produce and exchange training materials and personnel, thus avoiding duplication of efforts, while at the same time, promoting synergy, increasing cost-effectiveness and creating permanent capacity at the national and local level.

To conclude, capacity building remains a critical need for initiating and implementing ICZM. In particular, effective capacity building must be tailored to the needs and capacity of all actors at all levels and designed for specific target groups, presenting proper methodology, regarding precise contents and goals that can reduce the obstacles faced during the ICZM implementation.

Consequently, the research will investigate the ICZM initiatives based on the following questions in order to clarify the capacity of the focal actor and other actors to perform ICZM:

- Does the focal actor have the capacity to initiate and coordinate the ICZM initiatives?
- Do all the actors including, the focal actor, have the capacity to initiate and promote ICZM?
- What has been done to help develop the capacity of the focal and other actors?



### **3-3 Institutional and legal context**

The previous section was concerned with the capacity development that remains a critical need for initiating and implementing ICZM. Nevertheless, ICZM is dependent on the institutional and legal arrangements which clarify the role of each actor and remain one of the intermediaries between the actors in the network. This section discusses the significant function of the institutional arrangements and the legal framework, the key intermediaries between the actors needed to establish and run their network in ICZM. It also explores how their role will be investigated in the case study. To be more specific, the work in this section aims to answer the question: How can the intermediaries between the actors affect the initiating and processing of ICZM? This section is divided into two subsections. The first discusses the legal framework (subsection 3-3-1). The second defines the institutional arrangements and their importance for ICZM implementation (subsection 3-3-2).

#### **3-3-1 Legal framework**

A legal framework contains laws, conventions and decrees as well as a set of traditional and social norms represented by the various user groups (Westmacott 2002). The legal framework establishes obligations through rules and mechanisms which are usually aimed at securing compliance (Kibiwot 2008). Conflict resolution is one of the central concerns of any legal system. Disputes and claims over natural resources are very high in coastal areas (Iaccarino 2000).

The creation of an enabling legal framework emerges as fundamental for the success and sustainability of ICZM. This entails establishing clear rights, responsibilities and authority amongst the many stakeholders (Christie 2005; Patlis 2005). For example, González-Riancho et al. (2009) note that in both Algeria and Tunisia the development of an adequate coastal legal framework to deal with coastal issues will be a necessary step to better implement ICZM.

Sutherland and Nichols (2006) go on to indicate that the adequate legal framework should include:

- allocation of resource ownership, control, stewardship and use within society;

- regulation of resources and resource use (e.g. environmental protection, development and exploitation, rights to economic and social benefits);
- monitoring and enforcement mechanisms of the various interests; and
- mechanisms for adjudication of disputes, including inclusive processes.

Furthermore, legal arrangements are needed at different levels to make ICZM possible (Brachya et al. 1994). Legal frameworks are generally multilayered, ranging from the United Nations Law of the Sea Convention (UNCLOS), international customary law and international treaties, to national, state, and local level laws derived from tradition, legislation and the interpretation of the courts (Sutherland & Nichols 2006). Thus, legislation needs to be updated in response to changing circumstances and emerging issues (Thia-Eng 2006).

Moreover, it is inevitable that the management of a complex environment such as the coast will involve a significant amount of legislation authorizing a series of units and fields, including urban construction plans, land (soil) use, agriculture, fishing, tourism, industrial and energy investments, and economic sectors, besides marine life, fresh water resources, forests, flora and fauna, as well as air, solid and liquid domestic and industrial waste, noise and trans-boundary environmental pollution (Algan 2000). In such cases, legislation should be mutually consistent and should facilitate rather than impede the administrative process (O'Hagan & Cooper 2001). So, harmonization of laws from the international, to national and local levels, such that laws at distinct levels are complementary, not contradictory, is likely to influence ICZM implementation (Christie 2005). For example, one of the main challenges that has been outlined in Indonesia relating to ICZM implementation is its inadequate legal framework which has resulted in a series of gaps, overlaps, redundancies and conflicts between sectorial laws (Dahuri 2006). In the same way, O'Hagan and Cooper (2001) emphasize that the legislative framework in Ireland is characterized by complexity, ambiguities and irregularities. As a result, the current legislative system in Ireland poses constraints on the implementation of any coastal zone management policy. Likewise, Thailand has faced the same challenges in applying ICZM. It has more than twenty laws in existence which apply to the coastal zone but no framework legislation or mechanism for coordinating implementation (Dahuri 2006). Furthermore, Ferrajolo (2009) emphasizes that environmental treaties

and EU environmental directives are, in many cases, not fully or properly implemented into the domestic legal systems as a result of a lack of coordination between standards that originate from different sources, or among norms with diverse legal nature.

With respect to the effective legal framework that is necessary to implement ICZM, poor enforcement of the legislation will also hinder ICZM implementation (McKenna, Cooper & O'Hagan 2008; Tompkins, Adger & Brown 2002). For example, the 2003 review of coastal legislation in South Asia, which looks at legislation related to the coastal zone in five countries (Bangladesh, India, Maldives, Pakistan and Sri Lanka), concluded that it is not a lack of legislation that is hampering the control of undesirable activities in coastal areas as much as the lack of enforcement of legislation (UNEP 2006). To be more specific, effective compliance or enforcement of laws are probably closely dependent on how laws and the law-making process are perceived. The perceived legitimacy of laws probably affects compliance. Laws and policies which are imposed from outside the network of resource users are probably perceived as lacking legitimacy and encourage noncompliance (Christie 2005).

To conclude, due to the comprehensiveness and complexity of the structure of ICZM, it needs to be soundly equipped with a legislative basis and arrangements that are mutually consistent which assist rather than hinder the administrative process. Furthermore, the legal framework should be straightforward to enforce updating of the mechanism in response to emerging issues.

Consequently, the research will investigate the ICZM initiatives based on the following questions in order to clarify the intermediaries between the actors in ICZM:

- Is the ICZM supported by an adequate legal framework or arrangement?
- Have the various laws and regulations affecting the coastal area environment been harmonized?
- Are they enforced?
- Are there any mechanisms to update the legal framework in response to emerging issues?

### 3-3-2 Institutional arrangements

One of the most prominent parts of an ICZM is the institutional arrangements (Borhan 2007). It concerns the minimum arrangements necessary for institutional coordination. Indeed, institutional arrangements are the various processes groups of people go through to make collective decisions that govern the group (Boateng 2006). To be more specific, institutional arrangements are essentially the rules influencing human behaviour and include both formal and informal rules. The formal institutional arrangements are codified in constitutions, statutes, regulations, plans and policies. The informal institutional arrangements are manifest in social expectations such as the rules governing relationship within a family, firm or community (Boateng 2006; Maharaj 2001).

Olsen, Lowry and Tobey (1999) highlight that institutional arrangements in coastal management include the composite of laws, customs and organizations and management strategies established by society to allocate scarce resources and negotiate among competing values for a social purpose. Furthermore, they provide the framework or institutional infrastructure within which management functions are carried out and management instruments are applied (Westmacott 2002). Moreover, the institutional arrangements include identification of collaborating agencies and a definition of their responsibilities and mode of collaboration (Maharaj 2001).

Ostrom, (cited in Boateng 2006) distinguishes three levels of institutional arrangements, operational rules (day-to-day working rules made by resource users); collective-choice rules (rules used by users and external agents); and, constitutional-choice rules (determine eligibility to participate in the system and set out rules that will be used to design collective-choice rules).

Belfiore et al. (2006) highlight that the appropriate institutional arrangements are thought to be important in enabling successful ICZM. Furthermore Olsen, Lowry and Tobey (1999) argue that to move forward from the first phase of applying ICZM, the institutional arrangements must be negotiated and formalized. In the same way, Stojanovic and Ballinger (2009) emphasize that the institutional arrangements for governance of the coastal zone have become a key point for achieving effective ICZM. They are very important for clarifying dispute resolution procedures (McCreary et al. 2001). Institutional arrangements are also instrumental in strengthening country ownership of the ICZM projects (Yu & Bermas 2004).

Furthermore, the institutional context is a major factor conditioning the implementation of ICZM plans and strategies, even the follow-up of various initiatives (Brachya et al. 1994; Brochier & Giupponi 2001).

On the other hand, if the institutional arrangements which support decision making and management in the coastal zone do not exist, or are weak, then, it is argued, management is likely to be ineffective (Tompkins, Adger & Brown 2002). To be more specific, when these arrangements are weak, management authorities may not be clear and may overlap (Volk et al. 2009). Furthermore the fragmentation of interests and conflicts within sectors are often closely linked to the allocation, perceived as unfair, or ill definition of property rights, which are a form of institutional arrangement (Brugere 2006; Sutherland & Nichols 2006). For example, Jennings and Lockie (2003) demonstrate that in the Australian coastal zone, conflict between land uses (industry and agriculture) and resource users (commercial and recreational fisheries) has occurred due to institutional arrangements that provide insufficient opportunities for negotiation over development and the mitigation of social and environmental impacts among all impacted stakeholders. Thus, Boateng (2006) suggests that any institutional arrangement which does not clarify available opportunities for the resource users to integrate in coastal management is likely to conflict with users' interests as well as the informal institutions of the users.

Brachya et al. (1994) therefore highlight that one of the most frequent constraints on achieving ICZM is the lack of appropriate institutional arrangements. For example, Trumbic et al. (1999) argue that the experience within the Mediterranean countries demonstrated that success in ICZM programmes depends on developing proper institutional arrangements.

To conclude, institutional arrangements are needed to support the integration and implementation of ICZM. They are the criteria for decision making in ICZM. Thus, the institutional context should define clearly which actor is responsible for what.

Therefore, the research will investigate the ICZM initiatives based on the following questions in order to clarify the intermediaries between the actors in the ICZM:

- Are there any institutional arrangements for ICZM?
- Do the institutional arrangements define clearly which actor is responsible for what?

- Are the institutional arrangements becoming operational?

### **3-4 Financial resources**

The previous section was concerned with the institutional and legal arrangements which clarify the role of each actor and remain the intermediaries between the actors in the network. ICZM is also dependent on the financial resource which is also one of the important intermediaries between the actors in the network. This section discusses the importance of the financial resources in ICZM process as well as highlighting how its role will be investigated in the case study.

One of the main enabling conditions for ICZM is securing financial resources (Bastien-Daigle, Vanderlinden & Chouinard 2008). For instance unreliable and discontinuous funding has been reported for countries such as Belgium, Lithuania, and Poland as important factors hampering the progress of ICZM (Rupprecht Consult 2006).

In this regard, Belfiore (2005) emphasizes the fact that for the ICZM initiative to be operational, it needs to be formally adopted and supported by the necessary financial resources. In particular, achieving cooperation and integration between different levels of government to engage an ICZM process is always difficult, requiring financial resources (Hale 2000). Furthermore, a sustainable financial mechanism is essential to ensure measurable and positive effects of management and actions over a suitable period of time (Ehler et al. 1997).

However, Trumbic et al. (1999) highlight that in the Mediterranean developing countries, financial resources are not sufficient to allow for a thorough implementation of ICZM. In the same way, one of the main findings of a study presenting an assessment of ICZM initiatives in African countries was that there are no provisions for specific financial resources for implementing the project, particularly at the operational stage (Coccosis et al. 1998). Olsen (2002) also emphasizes that experience in developing nations demonstrates repeatedly that, even when the financial resources are assembled and spent to develop an ICZM plan of action, the results are often disappointing. In fact, evidence of sustained progress in ICZM is quite elusive as a result of the lack of a sustainable financial mechanism (Olsen 2003). For example, White et al. (2005) emphasize that it has been observed

in the Philippines that the majority of ICZM projects were not maintained after the funding and external technical assistance ended. Externally funded projects have generally been the main means of funding the preparation of ICZM within developing countries. The source of finance is mainly from the international community, while the host country contribution is mainly provided 'in kind'<sup>5</sup> (Christie 2005). This dependence on external financial and technical assistance creates both the potential for, and the reality of, non-sustainable ICZM institutions and policies as projects are terminated and support staff and funding are withdrawn (Christie 2005; Trumbic et al. 1999; White et al. 2005). The result is a large number of short-term projects usually conducted in isolation from each other. While ICZM requires the sustained pursuit of instantly recognizable goals, few coastal and marine management initiatives persist for more than a decade, and subsequent efforts sponsored by other donors are rarely linked to earlier investments or benefit from what could have been learned from previous efforts (Matthew Wilburn et al. 2007).

With regard to the sustainable financial mechanism to secure ICZM sustainability, Cummins, Mahony and Connolly (2004) demonstrate innovative ICZM financing mechanisms were identified in the "*Coasts and Islands Conference*" organised by UNESCO and held in Paris in 2003. Some of the mechanisms which can be developed independently or in combination with others include:

- **Public Private Partnerships (PPP):** This approach involves cooperative ventures between local government and the private sector.
- **Revolving Funds<sup>6</sup>:** Used successfully to implement ICZM in parts of Asia, this financing mechanism involves a payback mechanism and can be useful for supporting environmental improvement projects or services. It increases responsibility on behalf of participants at the national or sub-national level. It also ensures sustainable use of financial resources.

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<sup>5</sup> Payments in kind means: Payment made in the form of goods and services, rather than cash. Payments in kind are often made in the form of a concession or special privileges e.g. employee discounts.

<sup>6</sup> In pure economic terms a revolving fund is when a reserve of money (the fund) is used to lend to one or more borrowers. Over a given period of time, the borrower is expected to repay the original sum that restocks the fund (Holland 1998).

- Private Sector Funds: Involving co-financing from coastal users. This approach can enhance responsibility and increase cost effectiveness.
- Investment Funds: This financing approach involves the identification of investment opportunities to generate capital.

To conclude, it is crucial to the success and continued implementation of an ICZM programme to create the financial resources that are necessary, not only to initiate and develop the ICZM programme, but also to sustain the management activities that are important to achieving the programme's long-term operation and management objectives.

Consequently, the research will investigate the ICZM initiatives based on the following questions in order to clarify the effect of financial resources on ICZM implementation:

- Are the available financial resources adequate to start an ICZM process?
- Have adequate financial resources been committed for full implementation?
- Are the financial resources being allocated on a sustainable basis?

### **3-5 Participation**

The previous section was concerned with the financial resources in ICZM as one of the intermediaries. In this section, participation is demonstrated as a centred aspect ensuring that the network becomes both inclusive and effective. This section discusses the role of the stakeholder involvement and the public participation in ICZM as well as how this role will be investigated in the case study.

The participation approach to sustainable management has been identified as one criterion of success (Clark 2002). Pedersen et al. (2005, p358) defined participation as '*a process through which stakeholders and public influence and share control over project initiatives and the decisions and resources that affect them*'. In fact there is near universal agreement that community participation and stakeholder involvement in the development process are essential elements for ICZM effectiveness (see for example Anker, Nellesmann & Sverdrup-Jensen 2004; Caffyn & Jobbins 2003; Cummins, Mahony & Connolly 2004; Kosiek, Bastard & Bănică 2003; Lau 2005). For instance, Tobey and Volk (2002) highlight that evidence from



coastal management projects in developing countries show that projects with higher levels of participation by the intended stakeholders perform better and are more successful.

Furthermore, ICZM scholars advocate that the people's involvement and participation should be in initiatives that are beneficial to them (Doody 2003). Fletcher, (Cited in Barker 2005), argues that coastal resource users have a natural right to determine how local resources are used and should be engaged at the earliest possible stage of an ICZM. There are multiple benefits of involving them in this way, including enhancement of people's feelings of 'ownership' of their environment, creating valuable long term and/or large-scale data sets, increasing general awareness of environmental problems and intensifying relationships between stakeholders (Evans, Gebbels & Stockill 2008).

Furthermore, it may be argued that, on practical grounds, participatory processes are required to give stakeholders, especially the local population, a sense of ownership of ICZM projects. Without this sense of ownership ICZM will fail (McKenna, Cooper & O'Hagan 2008). In other words, it is important to improve popular participation in the achievement of the wide range of objectives defined in ICZM strategies and projects, as well as establishing the ownership of the initiatives within this participatory context (UNESCO 2000). This will be dependent on the extent and level of participation of the various actors in the project implementation activities. Thus in order to initiate participation, it is necessary to know who the stakeholders are, assign them a role and know their opinion on the state of the coast. IH Cantabria (2007) suggests that the identification of the stakeholders can be carried out through an iterative survey, whose final output is a complete list of all the stakeholders, divided into four categories:

- those who are responsible for a specific issue;
- those who depend on it;
- those who are influential; and,
- those who live in the space concerned.

With respect to the identification of the stakeholders a model of stakeholder participation suggests a hierarchy of stages with the higher steps representing greater

influence on the outcome and the lower steps being mere tokenism. However the degree of participation, and the degree of involvement of representatives from each stakeholder, will depend on the type of community-based initiatives being implemented and on the social and economic context of the site (Coccosis, Mexa & Collovini 2001; Cummins, Mahony & Connolly 2004; Lau 2005; UNEP 2001). Consequently, Pedersen et al. (2005) suggest three different levels of participation:

*Passive participation:* In this case, people participate by being told what has been decided or has already happened. The information being shared belongs only to the external professionals/officials.

*Participation by consultation:* In this case, people participate by being consulted or by answering questions. The process does not concede any share in decision making, and professionals/officials are under no obligation to take on board people's views.

*Interactive participation:* People participate in joint analysis, development of action plans, and formation or strengthening of institutions or local groups.

In spite of the levels of participation, there are many challenges to stakeholder involvement and public participation in a collaborative process such as ICZM, which may be considered including financial resources, trust and the capacity to participate (Rutherford, Herbert & Coffen-Smout 2005).

In conclusion, participation must be extensive enough to develop community trust and a constituency which supports the programme (Olsen, Lowry & Tobey 1999). Insufficient participation and consultation of all relevant actors is often one of the reasons for inadequate coastal management as well as for the further degradation of the coastal environment. To be more specific, all phases of a coastal zone management programme must be broadly participatory, with the majority of the initiatives originating from the stakeholders by having a broad representation of stakeholders in the various phases of ICZM.

Consequently the research will investigate the ICZM initiatives based on the following questions in order to clarify the public and stakeholder participation process in ICZM:

- Are public and all the other stakeholders involved in the ICZM process?

- Does the focal actor support and enhance the public and other stakeholders participation?
- Which levels of participation have been used through the implementation of the ICZM initiative?

### **3-6 Integration**

The previous section was concerned with the participation in ICZM as one of the networking means. In this section, the nature of integration in ICZM is displayed as another one of the networking means in order to understand how various actors are involved in ICZM. The work in this section aims to answer this question: How can the interaction between actors in the network affect the initiating and processing of ICZM? Thus, the section is divided into five subsections: The first defines the integration (subsection 3-5-1). The second teases out the importance of integration to coastal management (subsection 3-5-2). The next subsection defines the dimensions of integration (subsection 3-5-3). Then, the integration mechanisms are demonstrated (subsection 3-5-4). Finally, the synopsis of this section shows how the integration will be evaluated in the case study (subsection 3-5-5).

#### **3-5-1 Integration context**

In the last two decades integration and collaboration have become common themes in environmental management (Margerum 2001). They are advocated for their more holistic approach that focuses on management outcomes rather than narrow jurisdictions and single issues. Margerum (2001) highlights that a variety of terms are used to promote this concept, including integrated environmental management, integrated watershed management, collaborative planning, integrated coastal zone management, ecosystem management and integrated resource management.

The term integration has been a part of coastal management discussion since the UNEP Regional Seas Program was launched in 1975. Further to this, the term integrated was added internationally to coastal management through policy instruments such as the Jakarta Mandate to the Convention on Biological Diversity in the 1980s and Agenda 21 in 1992 when it became clear that the effective

management of coastal areas required a cross-sectoral approach (Atkins 2004; Humphrey & Burbridge 2003; Nichols 1999).

Clearly, Integrated Coastal Management promotes a holistic view that requires looking at the full range of activities and programmes that affect a system or region, and developing strategies for managing critical components and interrelationships within that system. To be more specific, integration is to *'unify, or to put parts together into a whole'* (Cicin-Sain & Belfiore 2005, p855). Furthermore, Bower and Kerry Turner (1998, p65) define integration in ICZM as *'including integration across broad policy objectives and plans, with different sectoral plans and management, with different levels of government and with the public and private sectors'*. In a word, integration in coastal management is what distinguishes the endeavour from traditional sectoral management. Success depends on coordination of effort and effective inter-organizational linkages for multiple use management.

As to the matter of integration, Lau (2005) argues that there are two stages in integration. The first is internal integration, which means *'aligning all government units with a direct coastal zone responsibility at a national, regional, or local level'* (Lau 2005, p129). The second stage is external integration: This stage aims at *'an integration of other government departments (industry, transportation, housing, urbanization, education, and tourism) in addition to users and interest groups each with its own specific goals'* (Lau 2005, p129).

In conclusion, the major purpose of integration in coastal management is to coordinate the initiatives of various agencies, private economic sectors, and communities towards the best long-term socio-economic outcomes (Clark 1997). Management is integrated not only when all components are included in a single framework but, also, when potential and expected factors are considered in practice (Kosiek, Bastard & Bănică 2003). To put it more simply, the basic philosophy of the integration approach is that managers must address the range of physical, ecological, social and economic interconnections and produce a strategic approach to management. Therefore, the key operational component to achieving integration is interaction throughout a process of planned change. Interaction between stakeholders representing interest groups, government bodies and individuals must occur at every stage, from the scoping process to strategy or plan development to implementation phases. So integration is essential for ICZM to succeed.

### **3-5-2 The importance of integration**

In a general sense, integration addresses the inter-relationships or inter-dependence between issues and sectors, and between environment and economic development. For instance, the complex overlay of issues and institutions along coastlines makes it impossible for a single agency to meet the challenges of management alone. A holistic view of the problem requires a wide variety of stakeholders contributing their perspective to a problem. Furthermore, multiple perspectives are important for identifying goals and identifying the most critical issues that should be addressed. Sufficient variety in the information gathered is needed to match the complexity inherent in the problem itself (Ehler et al. 1997; Margerum & Born 1995; Tobey & Volk 2002; van Kerkhoff 2005).

In the same way, Lane (2006) asserts that integration is essential to coastal management for three reasons:

- The coast is a space where multiple environments (marine, terrestrial, estuarine) interact;
- The coastal areas must be managed for multiple uses;
- Multiple claimants and actors across government, civil society and the market are involved in coastal governance.

Likewise, Olsen et al. (1999) argue that integration is a fundamental element in coastal management. It involves breaking down sectoral barriers by getting agencies to recognize their impact on other sectors, communities and the environment. Increased coordination among government agencies, and with outside organizations, involves a combination of amending mandates to coastal management objectives and offers incentives to influence institutional behaviour. In addition, achieving ICZM is based on the many dimensions of integration that need to be addressed (Olsen, Tobey & Kerr 1997). Again, Bower and Kerry Turner (1998) support the view that an integrated approach to coastal zone planning and management is necessary in order to produce effectively, efficiently and equitably distribution of the benefits of ICZM. Furthermore, Clark (1997) and Jennings and Lockie (2003) argue that the repetitive theme of ICZM is integration, without which the programme will fail. In the same way, Courtney and White (2000) argue that the key lesson generated by the government of the Philippines coastal management projects is that it is extremely

difficult to plan and implement successful ICZM programmes without a multi-sectoral approach and collaborative planning.

Therefore, overcoming the policy and functional fragmentation and overlaps between functions that occur in the governance of coastal areas is a central goal of ICZM. Furthermore, the preliminary step towards sustainable coastal management is to develop management plans for integrated coastal systems.

### **3-5-3 Dimensions of integration**

The notion of 'integration' is often used indiscriminately. However, in the present context, integration is considered in many of the guidance and lessons-learned documents based around six dimensions (see for example Belfiore et al. 2003; Belfiore et al. 2006; Cicin-Sain & Belfiore 2005; Clark 1997; Ehler et al. 1997; Kosiek, Bastard & Bănică 2003; Linkov et al. 2006; McGlashan 2000, 2002; Pedersen et al. 2005; Tobey & Volk 2002). Namely:

- Integration of policies and programmes across and among sectors of the economy, e.g. economic development, transportation, recreation and agriculture. 'Policy integration' is a fundamental element of ICZM. It involves breaking down sectoral barriers by getting agencies to recognize their impact on other sectors, communities and the environment. Increased coordination among government agencies and with outside organizations involves a combination of amending mandates to coastal management objectives and offering incentives to influence institutional behaviour.
- Vertical integration (intergovernmental integration): integration among agencies involved in coastal management at all levels of government, i.e. bringing together several levels of government from national to regional and local.
- Horizontal integration (inter-sectoral integration): in other words, bringing together agencies and groups from different sectors involved in the planning and management, such as agriculture, irrigation, fisheries, tourism, conservation, etc.
- Integration between public- and private-sector management activities.

- **Spatial integration:** integration between management actions that affect the land and water environments of coastal areas. To put it more simply, bringing together management issues concerning the land side of the coastal zone (including up-river issues related to watersheds and river basins) and issues related to the ocean side.
- **Integration among the disciplines of coastal management,** including ecology, economics, engineering and political science to secure comprehensive and multidisciplinary analysis and reflection. In other words, applying practical knowledge from the natural and social sciences to managerial decisions about the oceans and coasts.

To sum up, integration has different dimensions which need a clear mechanism to tackle the fragmentation between the various actors and dimensions.

#### **3-5-4 Integration mechanisms**

Fragmentation and shared responsibilities among ministries are realities likely to prevail. However, the integration in coastal management is what distinguishes the endeavour from traditional management. Success depends on co-ordination of effort and effective inter-organizational linkages for multiple use management. Many ICZM experts write about how integration could be achieved, for example Brochier and Giupponi (2001) emphasize that the establishment of a steering committee with representatives of different interests is required to guide and coordinate the ICZM process. Furthermore, Pedersen et al. (2005) support the view that a key element in the implementation strategy of the ICZM project has been to carry out the work through the establishment of structure, e.g. Forum or Task Force based on members from key agencies. The members of the Forum should be chosen after a stakeholder analysis. Belfiore et al. (2006) and Jennings and Lockie (2003) highlight that the aim of the stakeholder analysis is to identify all organizations and individuals who have:

- management responsibilities;
- power to influence the decision-making process; and
- a role to implement the decisions.

Pedersen et al. (2005) also stress that if key stakeholders are not involved in the ICZM programme, they may block the implementation of decisions. So the cross-

sectoral participation is seen as a mean of contributing to the establishment of coastal zone management networks among stakeholders and ensures their involvement in the ICZM process. In the same way, Barker (2005) argues that to achieve integration in coastal management, any forum must take a participatory and inclusive approach and tend to follow a systematic process towards collaboration. For instance, the coastal forum should be built on the 'consensual planning approach', whereby drafts of proposals and plans are available for comment before publication, which allows for the views from the top and bottom of the decision-making process as well as the stakeholders to be included (McGlashan 2002).

In addition, Sekhar (2005) argues that the mechanisms to achieve integration must recognize that all economic, physical and social systems are interconnected. Collaborative management and planning are therefore the key elements of a future integrated coastal management plan (Rutherford, Herbert & Coffen-Smout 2005).

In fact, several institutional approaches are possible to achieve integration in coastal management. The World Bank (1996) identified several inter-agency coordinating mechanisms including:

- a national planning agency;
- formal establishment of an inter-agency or inter-ministerial council;
- creation of a special coordinating commission or committee; and
- formal designation of one of the line agencies or ministries to act as 'lead agency' and to oversee an interagency coordination process.

For example, Foster and Haward (2003) have recognized a number of key approaches for enhanced integration which have been implemented in Australia's Oceans Policy, such as:

- establishing a National Coastal Advisory Committee to advise the Minister in charge of coastal zones on relevant issues;
- establishing a Coastal Coordinating Committee (for horizontal integration);
- establishing an Intergovernmental Technical Committee (for vertical integration);



- introducing public awareness programmes as part of the Coastal Action Plan initiative to promote better communication; and,
- creating Coastnet, an electronic communications network designed to facilitate exchange of information between researchers and managers.

Moreover, Cummins, Mahony and Connolly (2004) have highlighted that the network approach is the key to the success in implementing ICZM rather than a sectoral approach. So, establishing a coastal network provides opportunities for networking to keep up to date with coastal issues and progress with the ICZM. In addition, establishment of coastal zone management networks among stakeholders ensures their involvement in the ICZM process (Pedersen et al. 2005).

Finally, by reviewing the many documents that offer guidance on how to enhance integration in coastal management it could be concluded that there are many ways to achieve integration between governance levels and between all stakeholders in any coastal programme. All nations need to make their own choices based on their particular socio-political and governance structures and traditions, and the issues upon which the coastal programme needs to focus. The suggested integration mechanism should focus on:

- promoting and strengthening inter-agency and inter-sectoral collaboration;
- reducing inter-agency competition and conflicts;
- minimizing duplication of functions of government departments; and,
- providing a form for conflict resolution among stakeholders.

### **3-5-5 Synopsis**

This section was designed to understand the nature of integration in ICZM in order to understand how various actors are involved with ICZM.

For instance, the review of literature argues that ICZM affects many different sectors of society and involves many different scientific disciplines. Consequently, ICZM requires an integrated approach in order to overcome the policy and functional fragmentation and overlap that can occur in the governance of coastal areas. So, integration is a fundamental element in ICZM. In addition, achieving ICZM is based on the many dimensions of integration that need to be addressed. For instance,

achieving the integrated management of coasts is, to a substantial degree, a matter of governance. That is, achieving ICZM is a matter of the structures and processes which govern the behaviour of the state organizations, private sector corporations, civil society and citizens, who are active in, and utilize, the resources of the coastal zone. In this sense, integration is the task of arranging and organizing these actors, establishing incentives and parameters for their behaviour, and creating circumstances for collaboration (Lane 2006).

Therefore, the research will investigate the ICZM initiatives based on the following questions in order to clarify the extents to which there is integration between the actors in ICZM:

- Have the integrating dimensions been recognized in ICZM initiatives?
- Do all the participating stakeholders in all levels collaborate with each other?
- Which integration mechanisms have been used in order to implement ICZM?
- Are they effective?

### **3-7 Decentralization**

The previous two sections were concerned with the nature of integration and participation in ICZM as networking means in order to understand how various actors are involved in ICZM. This section discusses the importance of decentralization of ICZM process as well as how its role will be investigated in the case study.

Ribot (2002, p4) defines decentralization as '*any act in which a central government formally cedes powers to actors at lower levels in a political-administrative and territorial hierarchy*'. In fact, decentralization takes place when a central government formally transfers powers, i.e. authority and responsibility for public functions, to actors and institutions at lower levels in a political-administrative and territorial hierarchy or even the private sector and community associations (Satria & Matsida 2004). Institutional and legal arrangements are very important and have a great effect on addressing the issues of power distribution among levels of government – the

disciplines operating from within and outside government (Siry 2007). In this regard, Tobey and Volk (2002) argue that ICZM on the local scale will not flourish unless national government has provided national enabling conditions, including policy, legislation, political commitment and coordinating mechanisms. For example, in Malaysia, the lack of political will and commitment to support the decentralization of ICZM was the major constraint in implementation (Smith et al. 2006). Indonesia, on the other hand, has enacted a law that enables decentralization and thus is more likely to achieve its goals (Smith et al. 2006).

Pomeroy and Berkes (Cited in Satria & Matsida 2004, p182) define the goal of decentralization as '*greater participation and efficiency by getting people at lower levels more involved in the decision making processes and procedures that affect them*'. In the same way, Brugere (2006) emphasizes that the necessity for decentralization comes from two points:

- Increasing efficiency, as a central state authority usually lacks capacity to implement policies and programmes that reflect people's real needs and preferences.
- Improving governance, through enhancement of the accountability and monitoring of government officials and decision makers.

Furthermore, decentralization is the bridge to increase local community's or people's participation in coastal management (Satria & Matsida 2004). Hence, Siry (2007) argues that decentralization of ICZM is necessary to deal with the extensive geographical problems and the tremendous social and cultural diversity of communities. Siry (2007) goes on to argue that coastal zones in developing countries have clearly suffered as a result of inadequate institutional and management capacity, as well as a lack of decentralization for the community in implementing local integrated coastal management.

However, too much decentralization could cause damage to or over-exploitation of natural resources (Ribot 2002). Thia-Eng (2006) argues that decentralization of coastal management in East Asia countries has caused further fragmentation of efforts with many government departments often working independently. While the issues of coastal and marine management are complex and cross-sectoral in nature, the initiatives to address these concerns have thus far been sectoral and disjointed. In

this respect, highly decentralized countries have more problems in preparing a national ICZM strategy. In some cases they may not even feel that it is their mandate. This especially appears to have been the case for Italy (IOI 2006). Therefore, mechanisms for balancing national against local interests are essential. In this regard, Hale (2000) suggests that within a context of increasing decentralization it becomes ever more important that the national interest in the coast is defined and protected as well as a clear definition as to when national interests prevail over local interests. Therefore, Siry (2006) suggests that to promote the decentralization of the coastal zone, central government should play a crucial role. It must promote and provide training for all levels of government in a decentralized administration. Technical assistance is often required for local governments, private enterprises, and local non-governmental groups in the planning, financing and management of the coastal zone. For example, with decentralization and devolution of functions, such as in Thailand, the Philippines and Indonesia, most local governments did not have the capacity to manage their natural resources. They were unprepared technically, financially and in terms of institutional capacity, to deal with the duties imposed on them. Thus, when environmental facilities were handed over to local government authorities to be operated and maintained, there was inadequate planning for the funding of this long-term duty in a sustainable manner, and the local governments also felt a weak sense of ownership for their new functions (Courtney & White 2000; Thia-Eng 2006).

Furthermore, the success of decentralized of coastal zone management also requires the involvement of the public, environmental protection organizations, user group representatives, and the local community. In other words the potential of decentralization to be efficient and equitable depends on the creation of democratic local institutions with significant discretionary powers (Ribot 2002).

To conclude, decentralization of responsibility coincides well with a participatory approach to the planning and management of coastal areas and will not succeed unless national government has provided enabling conditions to the local level on how to properly exercise the delegated functions and responsibilities.

Consequently the research will investigate the following questions in order to clarify the role of decentralization in the ICZM:

- What forms of decentralization in coastal management are there?

- Are they effective?
- Do the local actors have the capacity to manage their coastal zone?

### 3-8 Conclusion

In conclusion, this chapter explained how the conceptual framework containing the seven factors that affect ICZM effectiveness can be used to analyse the ICZM initiatives. Figure 3-1 shows the critical components for evaluating the success of ICZM - the conceptual framework. These components are classified into four groups and are based on the seven factors that affect the ICZM effectiveness. Being more specific the conceptual framework contains: Initiating and processing the network (*ICZM approach*), the capacity of the focal actor and other actors to manage their network (*capacity development*), the intermediaries (*institutional arrangements and legal framework* as well as the *financial resources*), and the networking (*participation, integration and decentralization*). Each factor has its own questions in which the research has used to assess the ICZM initiatives.

The next chapter will develop the research methodology as a first step towards using this conceptual framework to evaluate the Egyptian ICZM initiatives.

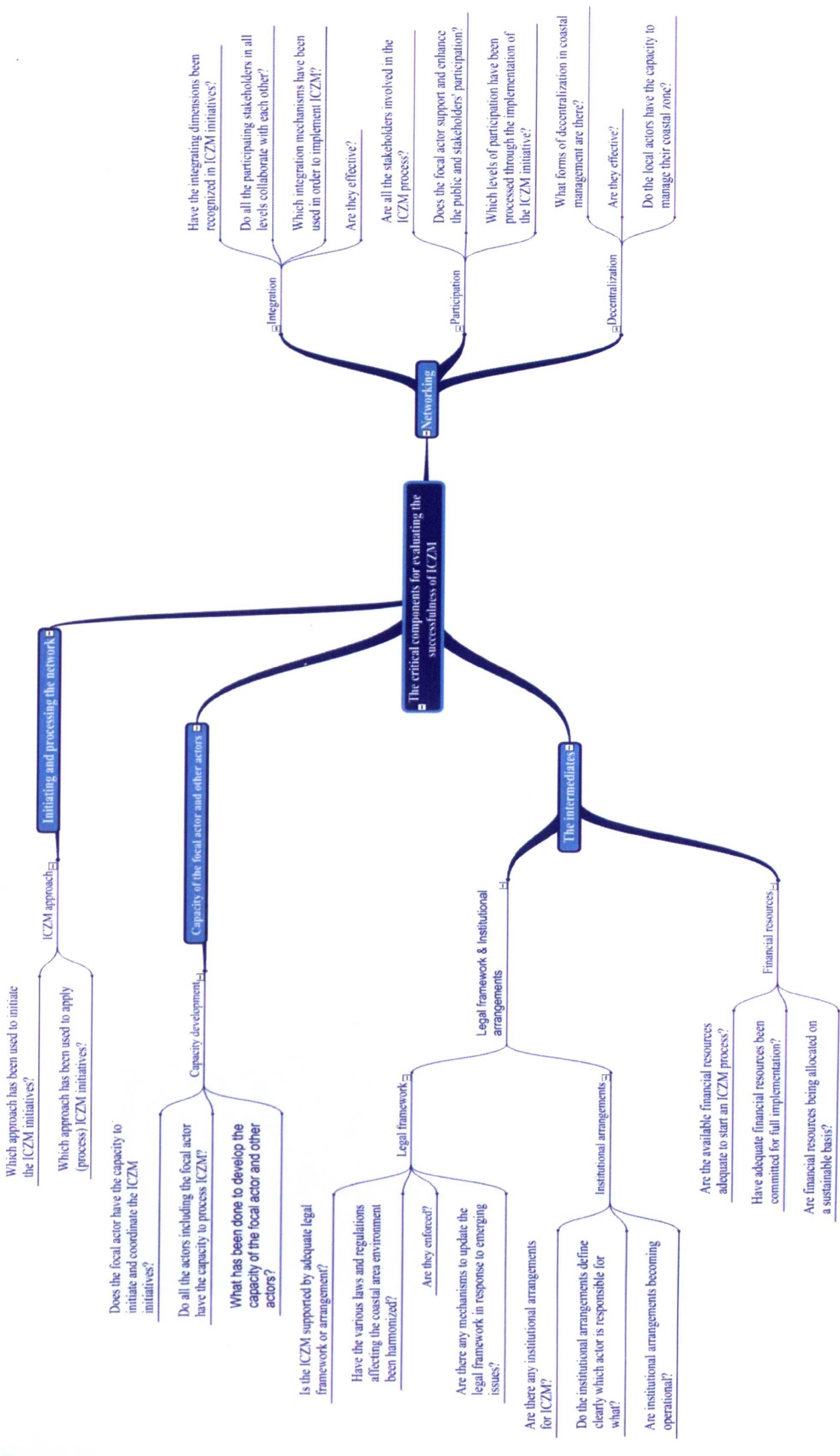
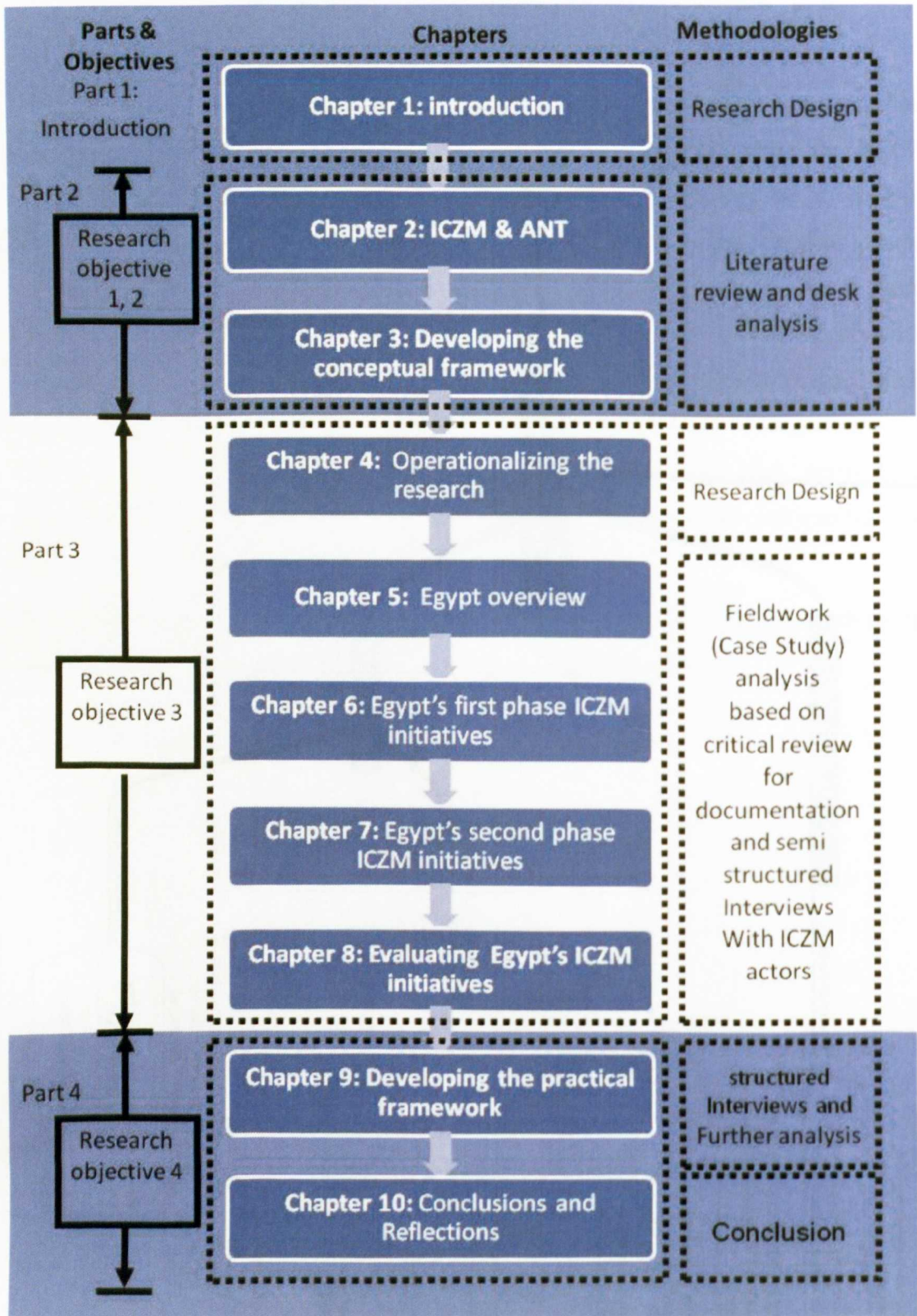


Figure 3-1 The critical components for evaluating the successfulness of ICZM - The conceptual framework

## Part three: Empirical work



## **Chapter 4: Operationalizing the research**



## **4- Operationalizing the research**

This chapter seeks to describe in more detail the way the research has been operationalized using the conceptual framework as the lenses for analysing ICZM initiatives using Egypt as a case study. The first section defines and justifies the broad research strategy (section 4-1) before the rationale for using the case study approach and the selection of Egypt is illustrated (section 4-2). Then the strategy to deal with ICZM initiatives in Egypt is defined (section 4-3). The fourth section (section 4-4) is concerned with the data collection strategy. Finally (section 4-5) discusses the data analysis strategy.

### **4-1 Research strategy**

Research design requires the choice of research strategy to be specified and justified. A decision needs to be made whether to use experimentation, survey methods, archival analysis, histories or case studies or a combination of all. The choice of strategy depends on the research questions and often a case study is considered the most flexible of all research designs by allowing the researcher to retain the holistic characteristics of real-life events while investigating empirical events (Creswell 2003). In general a case study strategy refers to a set of methods that can be applied for investigating human issues or social phenomena and is particularly suitable if the study is concerned with understanding individuals, groups or events, and the research questions are specific to those (Berg 2007; Kumar 2005; Yin 1993, 2003).

The essence of a case study is the attempt to illuminate a decision or a set of decisions; why they were taken, how they were implemented and with what result (Creswell 2003). Yin (2003) points out that a case study is the preferred strategy when the focus is on a contemporary phenomenon within some real-life context, when multiple sources of evidence are used, when the boundaries between phenomenon and context are not clearly evident, when the researcher has little control over events, and when “how” and “why” questions are being posed.

This research is to investigate a “contemporary social phenomenon” in a “real-life context”. For instance this research is seeking to evaluate and understand the ICZM

initiatives and teasing out the potentials and constraints for future ICZM implementation in order to build a practical approach that enhances ICZM implementation. Furthermore unravelling ICZM policy and practice requires data drawn from people's experiences as well as review of relevant documentation. In addition achieving the central aim of this thesis requires an answer to this question "how can coastal zone management be implemented in a sustainable and integrated way in countries with highly centralized governance systems and a deficit of stakeholder involvement and public participation?". Moreover policy and decision-making processes surrounding ICZM are complex and impossible to separate from the economic, social, and political contexts.

In the light of the previous presentation it can be clearly identified that the case study strategy is an appropriate strategy for this research. However the question now arises as to what should be an appropriate case study for this research?

The answer of the previous stated question should be based on the research aim which is "to build a practical approach that enhances ICZM implementation in countries with highly centralized governance systems and a deficit of stakeholder involvement and public participation". Furthermore it is clearly highlighted through the literature review that achieving successful ICZM is complex, especially in developing countries (section 2-2). Therefore, this research developed a conceptual framework (figure 3-1) in order to evaluate the ICZM initiatives in order to understand why many ICZM programmes, particularly in developing countries, have failed to develop a practical approach. This means that this study is intended to obtain insights about ICZM initiatives in one of the developing countries, based on the conceptual framework, in order to develop a practical approach that can be used in this country and in other countries which have similar characteristics. This conclusion leads to another question: Which country will be selected and why?

## **4-2 Case study selection**

Egypt enjoys a vital strategic location between three continents. This gives it a special significance from the point of view of biodiversity. The coastal zones are sensitive and diverse ecosystems (Abul-Azm, Abdel-Gelil & Trumbic 2003). The Egyptian coastline extends 3,500 kilometres along the Mediterranean Sea and Red

Sea in addition to the Suez and Aqaba gulfs (EEAA 2005). The coastlines of Egypt are rich with ecosystems such as coral reefs, mangroves, sand dunes, sea grass beds, estuaries and coastal forests. Coral reefs are associated with a high diversity of assemblages of fish. However, at the same time the coast of Egypt is one of the most densely populated in the MENA region (EEAA 2005).

The coast of Egypt with its internationally recognized biodiversity is also very important for the country's economy. But these areas require strong protection (Abd-Alah 1999). Yet, a significant percentage of the population is dependent on coastal resources for their livelihood. Conflicts over resource use, particularly in coastal and marine areas, have been increasing due to rapid industrialization and urbanization. To be more specific, Egypt's coastal areas range from globally significant coral systems in the Red Sea to severely degraded Mediterranean ecosystems. The coastal zones are exposed to many pressures, as they suffer from many development activities and the resulting types of pollution (Hanafy 2000).

Indeed, the marine environment and coastal zones in Egypt are under intensive pressure from industrial, urban and tourist development, and agriculture. These are causing shoreline erosion and flooding, water pollution and deterioration of the natural resources and habitats. Oil spills in the Gulf of Suez and the Red Sea are also a major concern (Alm 2006; EEAA 2005; ENPI 2007). So the major issues affecting the coastal zone include:

- Severe damage to the natural resources and biological diversity of the coastal ecosystems as a result of non-environmental practices such as land filling, dredging, illegal fishing, recreation facilities etc.
- Coastal and marine water quality is being affected by land-based pollution (eutrophication, pesticide residue, microbiological contaminations are reported as particular problems in the Nile delta and lagoons, with heavy metals being a specific problem in the Bay of Alexandria).
- Serious coastal erosion along the Mediterranean coast, particularly in the Nile delta.
- Waste produced from maritime transport, in addition to oil pollution accidents, mostly illicit discharge of bilge water and oily waste.

- Crude oil leakage accidents from pipelines extending hundreds of kilometres into the sea bottom, transferring crude oil from production wells to storage areas.

These threats not only have serious negative effects on the environment, but also impact upon the national and local economy, and human well-being. The problems are multi-dimensional and multi-located, and the Egyptian government has recognized the need to respond to these challenges by implementing ICZM.

Indeed the need for implementing ICZM in Egypt is based on two points of view (international and national). External pressure was applied by the World Bank and other international donors who flagged the need for a national ICZM policy in order to promote a sustainable use of Egypt's coastal areas, as well as an important contribution towards a regional Protocol on ICZM within the Mediterranean Action Plan (World Bank 2005b). At a more local level there was a regional demand for implementing ICZM in Egypt in order to control the haphazard development of different economic sectors (DAME 2004; El-Ghorab 2005). In fact, Egypt started to introduce ICZM during the mid 1990s, however, there is still no ICZM plan in operation. So, by analysing the ICZM initiatives in Egypt, the research intends to clarify why ICZM in Egypt has not achieved its objectives. In addition, the research intends to develop a practical approach to enhancing ICZM implementation.

Furthermore, Egypt has been selected as the case study because it is one of the it is often seen as a benchmark for the rest of the region (CEDARE 2005). Yet, like most developing countries, it suffers from centralization and lack of stakeholder involvement and public participation in planning and decision-making processes. These concerns are particularly apposite for coastal management. So, by analysing the ICZM initiatives in Egypt, the research intends to develop a practical approach that enhances the implementation of ICZM, not just in Egypt, but in the wider MENA region.

## **4-2 The strategy to deal with the ICZM initiatives in Egypt**

Recognizing the growing development pressure and a growing awareness of the environmental quality, combined with external pressure from donors and international agencies, has led Egypt to take some initiatives designed towards

introducing coastal zone management. In fact, since the mid 1990s several attempts have taken place to promote ICZM. However, these attempts have not achieved their goal of having an ICZM plan in operation. Table 4-1 shows Egypt's ICZM initiatives. In fact, the ICZM initiatives in Egypt can be divided into two main phases. The first phase started from 1995 with the setting up of the National Committee for ICZM (NCICZM). This led to the preparation of a national ICZM framework and the preparation of two local ICZM projects. This was followed by a pause between 2001 and 2005 largely as a result of lack of funding, particularly from international donors, and the absence of the NCICZM (DAME 2004; El-Ghorab 2005). In 2005 the second phase started by amending the environmental regulations. This enhanced the power of the Egyptian Environmental Affairs Agency (EEAA) to approve or refuse any new or extension to projects in the coastal zones based upon the results of an EIA (ENPI 2007). Furthermore, three new local ICZM projects were started in 2006. All of these projects were supported by international donors who aimed to promote sounder and more sustainable development of the Mediterranean Coastal Zone. The purpose of these projects was to formulate local ICZM plans for the parts of the Egypt Mediterranean coast under intense pressure. In 2007 the EEAA took the lead to re-establish the NCICZM and started in 2008 to prepare national ICZM strategy.

In the light of the previous presentation of the two main ICZM phases in Egypt, the research intends to evaluate both phases, extract the potentials and constraints in ICZM implementation and clarify whether Egypt has recognized the lessons from the first phase in the attempts that have been arranged in the second phase.

Furthermore, the strategy to deal with the ICZM initiatives in each phase is based on an approach at two levels (national and local). There are, in fact, three levels of government (national, regional and local) in Egypt, but the regional level is not effectively used in the system of coastal management. Thus, the major authorities for coastal management are founded at the national and local levels. In general, governmental jurisdiction on coastal management is divided into two main parts. The central government should be responsible for formulating policy and strategies while the local government should be responsible for executing policy and dealing with the real events.

Table 4-1 Egypt's ICZM initiatives

Egypt's ICZM initiatives				Time line
ICZM first phase initiatives	From 1995 to 2005	National Level	Setting up the National Committee for ICZM (NCICZM).	Setup in 1995 Stop working in 2001
			Preparing a national ICZM framework	Prepared 1996
		Local Level	FUKA-Matrouh Coastal Area Management Programme (CAMP).	Started in 1993 Completed in 1999
			Red Sea Coastal and Marine Resource Management programme (RSCMRMP).	Started in 1994 Completed 2002
ICZM second phase initiatives	From 2005 until present	National Level	Re-establishing the NCICZM.	Re-established 2007
			The new environmental regulations (Law 9/2009).	Enacted 2009
			Preparing the National ICZM Strategy for Egypt.	Started 2008 Not yet completed
		Local Level	Alexandria Lake Maryut Integrated Management (ALAMIM).	Started in 2006 Completed in 2009
			Plan of action for an ICZM in the area of Port Said.	Started in 2006 Completed in 2009
			Integrated Coastal Zone Management between Matrouh and El Sallum (MSICZMP).	Started in 2006 stopped end of 2007 Not yet completed

### 4-3 The data collection strategy

Evidence for evaluation of case studies can come from six sources documentary, archival records, interviews, direct observation, participant observation and physical artefacts (Yin 2003). Documents, participation observation and interviews have been identified as the main source of evidence in this research.

The data collection for this research, including a wide range of documents, participation observation and interviews with ICZM key stakeholders, was undertaken in three phases. *The first phase* was conducted in December 2007. *The second* was accomplished between December 2008 and February 2009. *The last* was completed in January 2010.

In fact, the motives behind selecting this strategy were that through the review of the resources from the first phase of data collection some actors were identified as being appropriate interviewees in the second phase. In addition, a need for more documentary data regarding the ICZM initiatives was clarified, based on the evidence analysed following the first phase, and was also collected in the second phase. Hence the first phase whilst providing useful material also served as initial

exploration to define what was required. For example, the review of the documentary data and interviewees' responses from the first phase highlighted some questions which needed to be asked in the second phase. Moreover the participant observation which was conducted in the second phase used to facilitate and develop positive relationships between researcher and key ICZM actors whose assistance were needed for the study to be successfully completed. These relationships were essential to the logistics of setting up the study, including gaining permission from appropriate officials and identifying and gaining access to potential interviewees for the second phase of data collection. Furthermore the participant observation provided the researcher with the insight into the process and proved to be a source of inspiration for some of the questions to be asked of the interviewees during the second phase of data collection. The third phase was done in order to validate the findings from the evaluation of the Egyptian ICZM initiatives. It was conducted through structured interviews (by phone) and was needed to highlight whether there were any omissions in defining the constraints, whilst at the same time trying to weight the constraints in order to define which of them should be of greater concern whilst developing the practical approach. Furthermore these structured interviews assist in gaining clear recommendations from the participants about how to tackle these constraints. Thus, all these previously stated results from the third phase of data collection paved the way for the next step which was to develop a practical approach designed to enhance the ICZM implementation.

This research design was in part shaped by some restrictions imposed by the sponsor of this research (the Egyptian government through the Egyptian Cultural and Educational Bureau in London). These conditions were related to the number of travel visits which were permitted. The scholarship enabled two funded visits to Egypt and determined the maximum period that could be spent outside the UK during each visit (one month for the first visit and two months for the second visit).

To sum up, *the first phase of data collection sought* to collect documentary data and conduct semi-structured interviews in order to understand the institutional and legal arrangements in coastal management, to review the ICZM initiatives and to identify the ICZM network in Egypt, so that the national and local key actors of ICZM could be defined. Furthermore, this phase was to determine who would be interviewed in phase two as well as generating ideas for questions to be pursued.

*The second phase was designed to collect more specific documentary data, make participant observation and conduct semi-structured interviews in order to generate the evidence needed to evaluate coastal management policies, plans, legislation and practice against the conceptual framework.*

*The third phase was to conduct structured interviews by phone (international phone calls from the UK to Egypt) with the same interviewees of the previous phases of data collection in order to validate the Egyptian ICZM evaluation findings.*

The next subsections clarify the approach to selection and reviews of relevant documentation, the procedure for making participant observation and the process for structuring and conducting the interviews.

#### **4-3-1 Documentation**

The secondary sources used in this research were based on documents containing technical and scientific literature in order to generate evidence for a review of coastal management plans and legislation and related issues in Egypt. The documentary material in this research includes:

- Coastal policy statements, strategies, programmes, legal and regulatory framework, and statutes in Egypt.
- Programme and project appraisal documents and other publicly available or technical reports for Egypt's ICZM.

#### **4-3-2 Participant Observation**

Participant observation is a qualitative method (Given 2008). It is useful for gaining an understanding of the physical, social, cultural, and economic contexts in which study participants live; the relationships among and between people, contexts, ideas, norms, and events; and people's behaviours and activities (MACK et al. 2005).

In this research overt participant observation<sup>7</sup> was used in order to facilitate and develop positive relationships between researcher and key ICZM actors as well as gaining access to potential interviewees. Furthermore participant observation

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<sup>7</sup> Overt participant observation, as the name suggests, involves the researcher being open with the group they are going to study. In other words, before joining a group the researcher inform the group's members (Given 2008).



provided the researcher with a source of questions to be addressed with the interviewees. The researcher attended three meetings of different Egyptian ICZM initiatives which occurred during the second phase of data collection. Table 4-2 shows the meetings that the researcher attended as a participant observer including the date of these meetings, their time period and the researcher's role in each meeting.

Table 4-2 The meetings that the researcher attended as a participant observer

Meetings	Date	Time	Researcher's role
Alexandria Lake Maryut Integrated Management (ALAMIM) project partners meeting	15 <sup>th</sup> December 2008	From 9am- till 1pm (the whole meeting)	Participant observer
Plan of action for an ICZM in the area of Port Said project partners meeting	25 <sup>th</sup> December 2008	From 9am- till 12pm (the whole meeting)	Participant observer
Agreement on a long-term vision workshop (the 1 <sup>st</sup> workshop for preparing the National ICZM Strategy)	29 <sup>th</sup> January 2009	From 9am- till 4pm (the whole meeting)	Participant as an expert and observer

For instance in the first and the second meetings the researcher remained an "outsider" and simply observed the meeting. The reason for that is the researcher was invited by the meeting coordinators to participate as an observer. In the third meeting the researcher took part in the activity while also documenting observations as the researcher in this event was invited to participate as an expert in the Egyptian coastal management.<sup>8</sup>

The observation notes were written by hand during the meetings. These notes were a record of what the researcher experienced, what was observed, who were potential interviewees, and anticipated questions for proposed interviewees. The researcher then expanded these notes into a descriptive narrative as soon as the meeting finished. None of these meetings were audio recorded, in order to ensuring that ICZM actors and local authorities privacy was respected at all times.

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<sup>8</sup> See Annex 1: the cover of the agreement on a long-term vision workshop report including a photograph of the researcher as one of the experts attended this meeting.

### 4-3-3 Interviews

Primary data for this research largely depended on interviewing key participants. The majority of interviews in the second phase were face-to-face, with a few exceptions when telephone interviews were used for convenience. In the third phase all the interviews were done by phone. This data collection method has the advantages of providing historical information, gaining information from participants when it cannot be observed, and grants the researcher control in the questioning (Creswell 2003). Interviewing ICZM actors was essential to this study in order to gain the experience and opinions of the actors in Egypt and to validate the research findings. It was impossible to use questionnaires for many reasons:

- The need for flexibility through discussion of the issues related to ICZM initiatives in Egypt; and,
- Questionnaires do not readily facilitate exploration of complex organisational networks as required for coastal management.

A total of 45 semi-structured interviews were conducted in the first and second phase of data collection with actors who participated in, or were related to coastal zone management activities at both national and local levels. Furthermore, 40 structured interviews were conducted in the third phase. Table 4-3 shows the number of interviews in each phase of data collection and their classification relation to the ICZM initiatives.

Table 4-3 The number of interviewees in each data collection phase

<b>Egypt's ICZM initiatives</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>
National Level	6*	8**	12
FUKA-Matrouh Coastal Area Management Programme (CAMP).	2	4***	5
Red Sea Coastal and Marine Resource Management programme (RSCMRMP).	2	4***	5
Alexandria Lake Maryut Integrated Management (ALAMIM)	2	7***	8
Plan of action for an ICZM in the area of Port Said	1	5	6
Integrated Coastal Zone Management between Matrouh and El Sallum (MSICZMP)	1	3	4
Total	14	31	40

\* Three of those were able to give details about CAMP and RSCMRMP as they participated in preparing these projects.

\*\* Two of them were interviewed in 1<sup>st</sup> phase of data collection.

\*\*\* One of them was interviewed in 1<sup>st</sup> phase of data collection.

For instance, 14 semi-structured interviews were conducted in the first phase of data collection. Furthermore, 31 semi-structured interviews, including five interviews with the same first phase interviewees, were conducted in the second phase of data collection<sup>9</sup>. Finally, a total of 40 structured telephone interviews were conducted in the third phase of data collection with the same interviewees from the previous two phases of data collection.

The interviewees were selected to represent a range of different institutional perspectives. These include local and national levels drawn from the public sector, the private sector, NGOs, international agencies (donors), scholars and marine environment consultants. These interviews took place in Cairo, Matrouh, Hurghada, Alexandria and Port Said.

*In the first phase of data collection* a snowball method of gathering interviewees was employed. In fact, the first two interviews were held with the key technical advisor of EEAA and a member of the national committee for ICZM. They were the gatekeeper for ICZM actors in Egypt. During these interviews they were asked about the key ICZM actors in Egypt to define who would be the next interviewees, and it was anticipated that the interviewees would continue to snowball in this way until the ICZM network map had been built.

*In the second phase* the interviewees were defined based on the data collected from the first phase, including the interviewees' responses and the documentary data as well as from the participant observation notes in this second phase of data collection.

*In both the first and second phases of data collection* an initial set of questions were identified based on the conceptual framework questions.<sup>10</sup> All of the interviews in these phases were semi-structured, conversation-style interviews that surrounded central themes, giving interviewees maximum room for discussion and allowing them to cover any topics they thought pertinent that the researcher was unaware of. Interviews were held until all the initial set of questions discussed, or when central recurring ideas became apparent by being stressed and repeated by several interviewees.

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<sup>9</sup> For further information about the interviewees see Annex 2: The list of interviewees

<sup>10</sup> For further information see Annex 3: The semi-structured interview guide

Interviews were conducted using the Arabic language, which is the official language in Egypt. This gave the interviewees the maximum comfort and clarity to discuss the issues related to the ICZM initiatives using their own language. Nevertheless, an interview guide that lists a predetermined set of issues based on the conceptual framework questions has been prepared in English (Annex 3). This guide served as a checklist during the interviews and ensured that the same issues were discussed with each of the ICZM actors. Interview notes were written by hand during the interview, and later translated into English, type-written and organized. None of the interviews were recorded, in order to give interviewees maximum comfort and freedom of expression. The interview themes, sample questions and segments of interviewees were reviewed by, and received ethics clearance through, the Civic Design Department (The University of Liverpool) and the Egyptian Culture Bureau in London (The sponsor of this research) prior to the commencement of the interviewing phase of this study<sup>11</sup>.

*During the third phase of data collection* forty telephone interviews with the same interviewees in the previous two phases of data collection were conducted. The procedures of the process were as follow. Firstly emails were sent to interviewees prior to the interviews asking their permission for a telephone interview at any time that was appropriate for them within one week from receiving the message. The email also included a set of questions<sup>12</sup>. The telephone interviews were conducted based on the questions that they had already received. This procedure gave the interviewees advanced warning about the questions they were required to answer through the interview. Three basic categories of questions were explored; the actors were asked to identify the significance of the constraints that had been revealed from the evaluation of the ICZM initiatives. In addition they were asked to identify any further constraint that they feel may have an impact on ICZM implementation and had been omitted. Finally they were invited to suggest any possible solution(s) enhancing the ICZM implementation in Egypt.

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<sup>11</sup> The same procedure has been used in the third phase of data collection to conduct the structured interviews (including using the Arabic language, taking interview notes, unrecording interviews, and receiving ethics clearance).

<sup>12</sup> For further information see Annex 4: The structured interview questions

## **4-4 Data analysis strategy**

The research recognized that the landscape of ICZM initiatives is varied and constantly evolving, and those efforts at developing and applying integration and the progress of its effectiveness may also take different forms. Therefore, the research takes into account the perspectives of the technical literature concerned with ICZM and the literature related to the use of ANT for assessing and evaluating networks, then develops a conceptual framework that will be used to evaluate the Egyptian ICZM initiatives. The research also aims, while utilizing the conceptual framework as a starting point to analyse the ICZM initiatives, to generate a practical approach inductively, based on the exploration of the reality of information from Egypt. The next subsections clarify the nature of the evidence and explain the approach to the analysis of the case study.

### **4-4-1 Nature of evidence in this study**

In an effort to limit personal and methodological biases, cross-checking, i.e., looking at a phenomenon or research question from multiple perspectives and sources of data, has been used wherever possible. Indeed, cross-checking has been proposed as a means for improving the credibility (how truthful are the findings), dependability (are the results replicable) and objectivity (how neutral are the research methods) of qualitative study findings (Berg 2007). In terms of data cross-checking – the use of a variety of data sources – both primary and secondary sources of information have been used. Whenever possible, qualitative data that resulted from interviews was cross-checked against each other and against findings from other sources such as academic literature and official documents.

In terms of credibility, the structured interview approach was selected in the third phase of data collection to be conducted with the same interviewees who interviewed in the previous two phases, in order to validate the research findings. In fact, the interviewees were asked whether all the constraints that were revealed from the evaluation of ICZM initiatives were valid and whether there were any more constraints that the research had not considered.

#### **4-4-2 The approach to evaluate the Egyptian ICZM initiatives**

The data has been collected for this research is mainly qualitative in nature. Therefore, the research has primarily used qualitative description and analytical methods, such as classification. The conceptual framework (figure 3-1) is used as a reference point for the analysis of data. Analysis of Egypt's first and second phases of ICZM initiatives at national and local levels has been the entry point to define potentials and constraints and therefore develop a realistic practical approach that enhances the implementation of ICZM in developing countries.

The conceptual framework has been used to evaluate the ICZM initiatives in order to assess the progress, trends and challenges, to explore whether Egypt has recognized the lessons from the first phase in the attempts that had been introduced during the second phase of ICZM activities. Furthermore, the potentials and constraints for future implementation of ICZM can be outlined. Moreover, the constraints revealed from the evaluation were validated and categorized based on structured interviews. Then, a practical approach has been developed based on the categorized constraints, the findings of the evaluation of the Egyptian ICZM initiatives and the real recommendations that were verified by the interviewees.

The analysis is based on secondary sources of data, including coastal policy statements, strategies, programmes, legislation and statutes of Egypt combined with primary data based on participant observations and interviews with key actors who were directly involved in the ICZM process in Egypt. The evidence from interviews and documentary data was classified and cross-checked against the factors that affect ICZM effectiveness, as identified through the literature review.

ICZM initiatives at both national and local level are evaluated together against the conceptual framework in the first and second phases of ICZM implementation in Egypt. This is an important element which is crucial for analysing ICZM in Egypt. The reason for this is the initiatives cannot be separated from each other. They are interdependent and affect each other.

#### **4-5 Conclusion**

This chapter describes how the research was operationalized using the conceptual framework to shape the methodology.

To conclude, the case study strategy has been selected as an appropriate research strategy for this research. Furthermore Egypt was selected as the case study of this research. The two main ICZM phases in Egypt have been identified and the research intends to evaluate both phases and explore whether Egypt has learnt from phase one in redefining phase two. The research intends to extract the potentials and constraints for future implementation of ICZM in order to develop a practical approach that enhances the implementation of ICZM in developing countries.

## **Chapter 5: Egypt overview**



## **5- Egypt overview**

The previous chapter operationalized the research as a first step towards using the conceptual framework to analyse ICZM initiatives. This chapter is designed to provide an overview of Egypt as a case study in order for the reader to understand the context before reviewing the ICZM initiatives against the conceptual framework. The chapter is structured around three perspectives. Firstly, it presents a general background including the geographic context, economic context and the governance context (section 5-1). Secondly, a discussion about environmental management in Egypt takes place including a review of the existing legislation framework and institutional arrangements (section 5-2). Thirdly, the legal framework and the institutional arrangements for coastal management are explored (section 5-3).

### **5-1 General introduction to Egypt**

This section gives a general background about Egypt as the case study in order to understand the local context and how this can affect ICZM initiatives. Firstly, the geographic context is described in order to understand its location and its coastal features. Secondly, the economic context is expressed, in order to understand the economic status of the country. Finally, having a basic understanding of the governance context is critical because the distribution of power throughout the country is absolute in influencing the decision-making process in all plans, policies and programmes.

#### **5-1-1 The geographic context**

The Arab Republic of Egypt occupies the north-eastern corner of Africa. Egypt is one of the countries in the Middle East and North Africa (MENA) region. Figure 5-1 shows the location of Egypt within this region. It is located between 22° and 32° North and 24° and 37° East. It is bordered on the west by Libya, on the north by the Mediterranean Sea, on the south by Sudan and on the east by the Gaza Strip and the Red Sea. Egypt covers an area of about 1,001,450 square kilometres (386,660 sq mi). Egypt is the third most populous country in Africa after Nigeria and Ethiopia (CIA 2009). Its population in 2009 was about 77.5 million and it is growing at 1.9% per

year (CAPMAS 2009). Despite being a large rectangular-shaped country large parts of country (the Sahara Desert) are very sparsely inhabited.

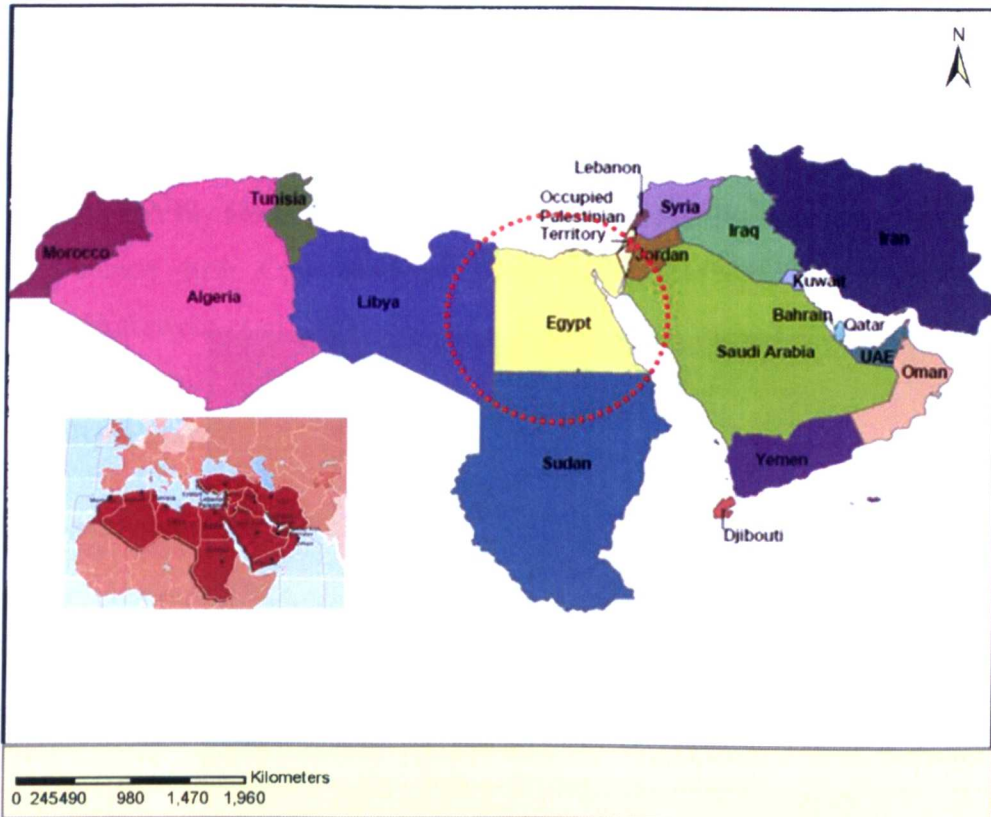


Figure 5-1 The location of Egypt within the MENA region

Source: (World Bank 2009a)

The great majority of Egypt's population lives along a narrow T-shaped strip of land (which constitutes less than 7.5% of its land area) along the Nile and the coastal strip around the Nile delta (Soliman 2004). Figure 5-2 shows the geography of Egypt in more detail.

The major urban centres, commerce and industrial activity are also confined to the narrow corridor along the Nile and the coast around its delta. The rest of the country is desert and does not support much population or economic activity (Agrawala et al. 2004). To be more specific, 53% of the Egyptian population live within 100 km of the coast (EEAA 2007). The shoreline of Egypt extends for more than 3,500 km along the Mediterranean Sea and the Red Sea. Egypt's Mediterranean coastline, including coastal lagoons, stretches for 1,550 km, 1,150 km of which is primary coast while the rest consists of the shores of sheltered coastal lagoons (EEAA 1996a; SIS 2008). Egypt's Red Sea coastline stretches for 1,850 km (Agrawala et al. 2004).

The Egyptian marine coastal areas constitute an important resource for many activities. Almost 40% of industrial development activities are located in Egyptian coastal zones. Tourism is one of the top three foreign exchange earners together with the oil industry and income from the Suez Canal (World Bank 2005a). Tourism development represents one of the main developmental activities in Egypt's coastal zones, particularly as beach development is regarded as the basis of international tourism (EEAA 2007). Furthermore, the Egyptian coastal zones' produce 85% of Egypt total oil and natural gas (EEAA 2005; JICA 2002).



Figure 5-2 The Geography of Egypt

Source: (Google 2010)

### 5-1-2 Economic context

The majority of the Egyptian population is employed in the services sector, followed by agriculture and industrial production (CIA 2009). Egypt's GDP (official exchange rate) in 2008 is \$162.6 billion, which is equal to GDP (purchasing power parity) \$444.8 billion (CIA 2009). The composition of the GDP combines three sectors. Firstly, agriculture employs 32% of the workforce and contributes 13.2% to the GDP. Secondly, industry employs 17% of the workforce and contributes 38.7% to

the GDP. Finally, services employ 51% of the workforce and contribute 48.1% to the GDP (CIA 2009; World Bank 2009a).

The per capita income of Egypt is about US\$2,100 (CIA 2009). This is growing at about 7.1% per year (World Bank 2009b). This ranks below average per capita income for MENA countries but slightly more than per capita income for low and middle income countries (World Bank 2007b). The poorest quintile of Egyptian population can lay claim to only 9.8% of national income while the richest quintile garners nearly 40%. Consequently, almost one-quarter of the population lives in poverty (Agrawala et al. 2004). In fact, poverty remains an issue, with 17% of the population (mainly in Upper Egypt and rural areas) living on less than \$1 per day (World Bank 2007a).

### **5-1-3 Governance context**

Egypt's governmental power and authority is concentrated within central government. It is represented by a Cabinet of Ministers which is appointed by the President. The powers of presidential appointment are extremely influential and affect a variety of local and national governmental institutions, including ministers, governorates governors<sup>13</sup> and senior officials (Sowers 2003).

The Cabinet of Ministers is the highest administrative and executive body managing the state's affairs, including: directing, coordinating and monitoring the performance of ministries and public authorities; drafting public budget and state plans; concluding and granting loans based on presidential laws and decrees. The government, in conjunction with the President, lays down the state's public policy and supervises its implementation. The government also works on the implementation of laws, maintaining national security and protecting citizens' rights and interests (SIS 2008).

Despite this highly centralized system, decentralization and the role of civil society are currently important political topics in Egypt (SIS 2008). Furthermore, in response to financial pressures from international organizations and the need to relieve the state bureaucracy of some burdens, the government is making attempts to develop

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<sup>13</sup> Egypt is divided into 29 governorates (muhafazat, singular - muhafazah). See annex 5 for full details about Egypt's administrative divisions

civil society (ENPI 2007). However, the role of locally elected bodies, NGOs and local communities in policy formulation remains very limited (ENPI 2007). For instance, the distribution of power throughout the country, which is highly centralized, is absolute in influencing the decision-making process in all plans, policies and programmes.<sup>14</sup>

## **5-2 Environmental management in Egypt**

The previous section gave a background about Egypt. This section is designed to describe environmental management in Egypt. The reason for this is that coastal management is part of environmental management in Egypt. It follows the same legal framework and is affected by the same institutional arrangements.

This section is divided into two. The first (subsection 5-2-1) gives an overview of the legal framework of environmental management. Then, the environmental institutional arrangements are explained (subsection 5-2-2).

### **5-2-1 Environmental legal framework**

Over the past five decades, Egypt has adopted a substantial body of environmental and environment-related laws, decrees and regulations addressing various aspects of environmental protection and natural resources management (EEAA 2007). Environment protection was included in several sectoral laws that authorized the ministries to monitor their own polluting industries, thereby rendering their application of these laws dysfunctional, as each sector ministry (Petroleum, Electricity, Industry, and Water Resources and Drainage) became judge and violator at the same time (further discussion about the legal frameworks and their affects on the ICZM initiatives are developed in chapter 8) (El-Kady & Elarabawy 2008).<sup>15</sup>

In the 1980s, significant effort was dedicated to preparing a law (102/1983) designed to provide the EEAA with a strong legislative tool for establishing and managing Egypt's protected areas and natural resources (EEAA 1998). The law stipulated that EEAA is the competent administrative authority to regulate and coordinate the

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<sup>14</sup> The influence of this centralized form of government on coastal management is discussed in detail in chapter eight

<sup>15</sup> Annex 6: Presents principal environmental laws, decrees and regulations.

actions of all other government authorities and ministries when these are likely to endanger or compromise the value, integrity or natural resources of any declared protectorate. The law was concerned with development and management of Natural Protected Areas and was ratified by the People's Assembly in July 1983. The law included rules concerned with:

- Definition of the protected area, their justifications and its purpose;
- Designation and delineation of protected areas (Protectorates) to be declared through a decree from the Prime Minister, upon recommendations from the Egyptian Environment Affairs Agency (EEAA);
- Forbidding actions that would lead to the destruction, deterioration, or cause harm to the protected areas;
- Permitting NGO's to follow up the implementation of laws and decrees concerning management of protected areas in the courts; and,
- Establishing a special fund to be used in promoting the protected areas.

Then, in the early of 1990s, the government sponsored a new Environment Protection Law (4/1994) (Sowers 2003). This serves as the basic current legal framework for environmental protection. The law 4/94 covers environmental issues more generally. The law focused on setting concentration standards for pollutants and specifying the role of the EEAA vis-à-vis other ministries. To be more specific, the law consists of four main sections. Section one, is concerned with establishing regulations which included protecting the land environment from pollution. Section two, is concerned with protection of the air environment from pollution. Section three, is concerned with protection of the water environment from pollution (ship- and land-based sources). Section four deal with penalties that could be imposed for non compliance (EEAA 2006b).

The enactment of the law addressed several significant legislative gaps related to environmental protection which had been neglected by the earlier sector laws, such as water pollution, hazardous substances and waste, and waste management. It was a step towards introducing more flexible and more effective tools for dealing with environmental problems (EEAA 2001). However, the World Bank (2005a) argued that this law acted a compromise to satisfy all the parties concerned, without giving

real authority to the EEAA to enforce the terms of the law. Therefore the law was amended in 2005 in order to acknowledge the World Bank criticisms and enhance the power of the EEAA. Again, in 2009, the law was amended to enhance the penalties that could be imposed for non compliance and introduce new articles related to coastal management (these amendments, especially those related to coastal management, will be discussed in chapter 7 and 8).

### **5-2-2 Institutional arrangements**

The institutional framework for the environmental administration in Egypt is complex. Although the responsibility for environmental protection rests with the Ministry of State for Environmental Affairs and its executive agency, the EEAA, environmental issues cut across the activities of many ministries and institutions. In fact there are many environment-related institutions in Egypt. They could be classified into two broad categories:

- The national environmental organization represented by the EEAA at the national level and its eight Regional Branch Offices (RBOs) and the environment management units (EMUs) in the governorates.
- Institutions with specific operational functions on the environment.

#### **First: The EEAA and its RBOs and EMUs**

The Environmental Protection Law 4/1994 mandated the EEAA to act as the coordinating body for environmental management and to mainstream environmental considerations into all the policies of the various sectoral ministries at the national and local levels (DAME 2004). Responsibility for the EEAA was given to the Cabinet of Ministers (Fawzi & Abul-Azm 1996). Furthermore a minister was assigned to oversee the work of the agency and chair the EAAA Board of Directors. The Chief Executive Officer (CEO) of the Agency is nominated by the Council of Ministers. The CEO oversees the day-to-day management of the agency and ensures that the policies and guidelines provided by the Board are implemented (World Bank 2005a). In this respect the EEAA has the responsibility for formulating environmental policies, preparing the necessary plans for environmental protection and environmental development projects, following up on the impacts of implementation, undertaking pilot projects and promoting environmental relations

between Egypt and other countries, as well as between regional and international organizations.<sup>16</sup>

The EEAA has promoted the decentralization of operational matters by devolving some responsibilities to two local levels. First the EEAA has established eight Regional Branch Offices (RBOs). Secondly in an attempt to enhance the governorates' role, particularly in relation to environmental management, EMUs have been set up in each of the governorates.

Each one of The RBOs provide support to a number of governorates in their environmental management efforts (EEAA 2007). Table 5-1 shows the geographical range of the RBOs.

The EEAA (2006b) stated that the RBOs' mandates are:

- Preparing studies which address the environmental status of the governorates within the region, and providing the EEAA with environmental maps and information to use in the formulation of the National Environmental Action Plan (NEAP).
- Establishing coordination links between the Ministry of Environment and EEAA, and the governorates in order to achieve EEAA objectives for environmental protection.
- Supervising environmental monitoring networks at the governorate level, and reporting to the EEAA head office.
- Spreading environmental awareness in the governorates and coordinating with the respective local agencies.

Table 5-1 Geographical range of the RBOs

RBO name	Location	Governorate
Greater Cairo	Cairo city	Cairo, Giza, 6 October, Halwan, Kalyoubeya and Fayoum
Alexandria	Alexandria city	Alexandria, El-Behera and Matrouh
Middle of Delta	Tanta city	El-Garbeya, Mounefia and Kafr El-Sheik
East of Delta	Mansoura city	El-Dakahleya, El-Shakia, Demitta and Port Said
Canal area	Suez city	Suez, Ismaelia, South of Sinai and North of Sinai
Red Sea	Hurgada city	Red Sea
North of Upper Egypt	Assiut city	Beni-Suef, El- Menia, Assiut and New Valley
South of Upper Egypt	Aswan city	Kena, Aswan, Sohag and Luxor

Source: (EEAA 2007; World Bank 2005a)

<sup>16</sup> See annex 7 for further details about the EEAA functions



EMUs have been set up in each of the governorates. Administratively, EMUs are a part of the governorate's structures and thus under the supervision of the Ministry of Local Development. For instance this affiliation affect the communication and integration between the EMU and the RBO as each of them is affiliated to a different ministry (DAME 2004).

The main responsibilities of the EMUs are:

- Monitoring and enforcing environmental laws and regulations at the local level;
- Conducting periodic surveys on the state of the environment;
- Advising the governors and local government on all environmental matters (World Bank 2005a).

### **Second: The institutions with specific operational functions on environment**

At the sector level, many ministries and/or national institutions have departments or units mandated to deal with environmental management issues within their departmental responsibilities (DAME 2004). They all share three common features:

- they are relatively newly established, from the beginning of the 2000s;
- they have limited environmental management capacity and experience; and,
- the mechanisms for coordination with the EEAA and between each other on environmental matters is unclear (World Bank 2005a).

Table 5-2 provides a brief overview of the responsibilities of the different ministries in the field of the environment, the environmental institutions and/or divisions within these ministries, and their affiliated concerned departments.

Table 5-2 Ministries /National Institutions – Mandated with Environmental Issues

Ministries /National Institutions	Affiliated National Institution or Division	Environmental Department or Unit	Environmental Management Responsibility
Ministry of Health and Population (MOP)	Central Department for Environmental Affairs	- General Department for Environmental Health, - General Department for Environmental Monitoring - General Department for Food Inspection - General Department for Occupational and Industrial Medicine	- Setting environmental health policy and regulation - Prevention and control of environment related health problems and diseases through environmental health officers. - Operating the National Air Pollution and the River Nile Water Quality Networks - Monitoring water quality for drinking and domestic purposes. - Monitoring the municipal and industrial effluents through sampling
Ministry of Water Resources and Irrigation	National Water Research Centre	Climate Change and Environmental Institute	- Protecting all public water resources in Egypt - Regulating and controlling sources of water pollution - Operation of the national surface and groundwater monitoring networks - Issue regulations setting water quality standards and discharge limits - Facility inspection and reporting violations to the police
	Shore Protection Authority (SPA)		- Shoreline protection and management
		Water Quality Management Unit	- Policy development, decision support system and monitoring regarding water quality
Ministry of Local Development		Solid Waste Management Unit	- Overview of the privatization process of solid waste management services in the Governorates
Ministry of Housing Utilities and Urban Communities	General Organization for Sanitary Drainage		- Provision of water supply, sewage collection and treatment and solid waste management
Ministry of Interior	- Environment and Surface Water Police		- Special police force for enforcement of law 48/1982 and law 4/1994
	- Traffic Departments		- Implementation of the Vehicles Emissions Inspection, according to Law 4/1994
Ministry of Agriculture & Land Reclamation (MALR)	- Agriculture Research Centre		- Management and conservation of agricultural land, wildlife, and biological resources. - Preventing soil stripping and protecting land from degradation. - Regulating the purchase, importation and handling of pesticides.

Continue

Ministries /National Institutions	Affiliated National Institution or Division	Environmental Department or Unit	Environmental Management Responsibility
Ministry of Electricity and Energy	Egypt Electricity Holding Company	General Department for Environmental Studies  Environmental Affairs Departments within the affiliated companies	- EIAs of electricity projects - Periodic environmental audits and reviews - Implement environmental compliance plans - Collaboration with environment-related organizations

Source: (DAME 2004; EEAA 2006b; World Bank 2005a)

### 5-3 Coastal Zone Management in Egypt

The previous section illustrated environmental management in Egypt through reviewing its institutional arrangements and legal framework. This section is designed to give a brief overview of coastal management in Egypt as a sector of environmental management.

#### 5-3-1 Legal framework for Coastal Zone Management

In Egypt there is no specific legal framework dealing with the coastal zone. However, there are several laws and decrees that are applicable to coastal zones. Approximately 200 national laws and decrees exist in Egypt that directly, or indirectly regulate coastal development, or which have an aim to protect the marine and coastal environment (Borhan 2007). Table 5-3 provides a brief overview of the principal coastal management related laws and decrees.

Table 5-3 The principal coastal management related Laws/Decrees

Laws/Decrees	Main interest regarding the environment	Organizations
Law 280/1960	Regulates activities within the ports and the regional waters	Ministry of Defense
Law 79/1961	Determines measures to be taken in case of marine disasters	The Port and Lighthouse Authority. Ministry of Defense
Law 93/1962	Replaced All Previous Laws Concerning Disposal of Wastewater; it classifies the water bodies (fresh water, grey water, and saline water) and specifies licensing and limitations of discharges to public sewers	Ministry of Housing and Public Utilities. Local Authorities.
President Decree 1948/1965	Establishes a permanent committee for protecting the sea from oil pollution	Ministry of Defense
Law 38/1967	General cleanliness and sanitation	Local Authorities.

Continue

<b>Laws/Decrees</b>	<b>Main interest regarding the environment</b>	<b>Organizations</b>
Law 27/ 1978	Regulates public water resources for drinking and domestic use	Ministry of Health and Population
Law 57/1978	Sets measures for treating ponds and marshes	Ministry of Housing and Public Utilities. Ministry of Local Development.
Law 48/1982	Regulates the discharge of wastewater into the River Nile and other waterways. The standards of the law specifies water quality of fresh water bodies receiving industrial effluents, limitations of treated industrial effluents discharged to fresh water, quality of drainage water mixed with fresh water bodies, and quality of sewage and industrial effluent discharge to drains and brackish water bodies	Ministry of Health and Population. Ministry of Water Resources and Irrigation.
President Decree 45/1983	Signs the Protocol for the protection the Mediterranean from land based pollution sources	EEAA. The Port and Lighthouse Authority.
Law 124/1983 and the Ministerial Decrees 303/1987 and 329/1985	Regulating fishing and fish farming activities	Ministry of Agriculture and Land Reclamation
Law (102/1983)	Governing Protected Areas and have some impacts on the management of coastal resources especially related to the marina protected areas	EEAA.
presidential decree 465/1983	Stating that all the water bodies in Egypt are placed under the jurisdiction of the General Authority for Fish Resources Development.	General Authority for Fish Resources Development
Law 12/1984	Regulates irrigation, water distribution, groundwater management in the Nile Valley and Delta, and the establishment and maintenance of drainage canals. Furthermore stating that the SPA is responsible for shore protection and in this regard it is committed to develop any construction needed for this issue.	Ministry of Water Resources and Irrigation
Minister Decree 5/1991	Prohibits disposal of waste in the regional water, the Egyptian ports and waterways	Ministry of Transport
Law 4/1994	This law sets out the principles for protection of the sea, natural and artificial lakes, and river shores, and outlines the direct responsibilities of the state which are in-relation to coastal areas.	EEAA.
Law 874/1996	Prohibits the use, import, handling and preparation of potential carcinogenic pesticides	Ministry of Agriculture and Land Reclamation
MD 64/1996	Sets the water specifications of bathing coasts	Ministry of Health and Population
Minister Decree 44/2000	Regulates the discharge of wastewater into public sewers	Ministry of Housing and Public Utilities, The Local Authorities

Source: (DAME 2004; EEAA 2006b, 2007; METAP 2006; World Bank 2005a)

Through a review of existing legislation a number of important findings can be revealed. Two Laws are of particular significance. The first is the law (102/1983) governing Protected Areas. The second is the law (4/1994) which led to the founding of the EEAA (Borhan, Farouk & Hamdy 2003). In the 1980s, significant effort was devoted to the preparation of law (102/1983). Although the law had some impacts

on the management of coastal resources, the main focus was on generic protection and conservation issues. To be more specific this law (102/1983) did not lead to any significant improvements in coastal management due to its concentration on designated areas within the marine environment, namely Protected Marine Areas. In fact little regard was given to the surrounding areas along the coastline (Sowers 2003). Recognizing this limitation, the Egyptian Parliament, in 1994, approved a Law for the Environment (4/1994) (Sowers 2003). This law covers environmental issues generally, although some of the articles have strong implications for the coastal zone (Abd-Alah 1999). This law sets out the principles for the protection of the sea, natural and artificial lakes, and river shores, and outlines the direct responsibilities of the state in-relation to coastal areas. The law is quite detailed on certain coastal aspects, such as pollution from ships which is covered by more than 20 articles. It is rather less specific on others issues such as pollution from land-based sources and near-shore land use. The latter for example, is covered by only six articles (World Bank 2005a).

As stated earlier the law (No.4/1994) was amended in 2005 and again in 2009 (these amendments, especially those related to coastal management, will be discussed in chapter 7 and 8).

### **5-3-2 Institutional Framework for Coastal Zone Management**

The institutional framework for ICZM in Egypt involved appointing the EEAA as the lead agency to coordinate the national coastal management activities. According to law 4/1994, the EEAA became the specific authority to engage with and coordinate the actions of the concerned agencies and Ministries in the preparation of a National ICZM Plan (EEAA 1996b). With this mandate, the EEAA was charged with the responsibility for designing and implementing ICZM in Egypt. The EEAA created two new departments, namely the Mediterranean Coast Department and the Red Sea Coast Department. The specific role of these departments was to manage coastal and maritime zones within their jurisdictions, and support the development of pilot projects in this field (Abul-Azm, Abdel-Gelil & Trumbic 2003).

While the EEAA is responsible for Egypt's sea and coastal zone policies, different authorities also have different responsibilities in the coastal zones. The main responsibilities of these bodies including the EEAA are outlined in Table 5-4.

Table 5-4 Direct institutional responsibilities in the coastal zone

Ministry and Affiliated Authority/ Agency	Coastal Zone Responsibility
The Ministry of State for Environmental Affairs (MSEA) and its executive authority, the Egyptian Environmental Affairs Agency (EEAA)	<ul style="list-style-type: none"> <li>- Coordination of the ICZM plans</li> <li>- Review and evaluation of EIAs</li> <li>- Regulating activities within coastal setback areas in coordination with SPA</li> <li>- Implementing marine ambient water quality monitoring</li> <li>- Surveillance, patrolling, inspection and enforcement of the provisions of law 4/94, in coordination with governorates</li> <li>- Management of marine protected areas</li> <li>- In coordination with other organizations, preparing oil spill contingency plans</li> </ul>
Ministry of Water Resources and Irrigation	<ul style="list-style-type: none"> <li>- Controls water levels and supply in all water bodies for irrigation purposes</li> <li>- Providing and monitoring the water level of lakes taking into consideration fishing demands and the general security measures to avoid potential flooding</li> </ul>
Ministry of Water Resources and Irrigation - Shore Protection Authority (SPA)	<ul style="list-style-type: none"> <li>- Shoreline protection and management</li> <li>- Regulating activities within coastal setback areas in coordination with EEAA</li> </ul>
Ministry of Tourism - Tourism Development Authority (TDA)	<ul style="list-style-type: none"> <li>- Preparation, review and evaluation of tourism development programs and projects and monitoring their implementation</li> <li>- Carrying out preliminary land allocation for tourism development projects</li> <li>- Execution of infrastructure projects and developing infrastructure framework schemes for tourism development</li> <li>- Participation in the EIA process as the competent administrative authority (outside city boundaries)</li> </ul>
Ministry of Petroleum Egyptian-	<ul style="list-style-type: none"> <li>- Exploration and concessions</li> </ul>
Ministry of Development	<ul style="list-style-type: none"> <li>- Preparing development policies and plans for coastal areas</li> </ul>
The Ministry of Housing, Utilities and Urban Communities (MOHUUC) - General Organization for Physical Planning (GOPP)	<ul style="list-style-type: none"> <li>- Preparing physical/ land-use plans for a number of coastal areas.</li> <li>- Construction projects in coastal areas</li> <li>- Responsible for major investments projects and housing developments taking place in Egypt</li> <li>- Planning for potable water supply networks and sanitary drainage at the national level</li> <li>- Conducting studies, designing and supervising major national projects within the governorates</li> </ul>
Ministry of Agriculture-General Authority for Fish Resources Development	<ul style="list-style-type: none"> <li>- Providing licences for fishing and monitoring fishing.</li> <li>- Responsibility for supervising the implementation of fishing laws and related executive decisions</li> <li>- All the water bodies in Egypt were placed under its jurisdiction.</li> </ul>
Ministry of Transportation	<ul style="list-style-type: none"> <li>- Harbour construction and management</li> <li>- Ships' licensing</li> </ul>
National Centre for Planning State Land Uses (NCPSLU)	<ul style="list-style-type: none"> <li>- Planning the land use of all parcels owned by the state</li> <li>- Follow up the development of these lands</li> </ul>
Local Administration (Governorates)	<ul style="list-style-type: none"> <li>- Governorate development plans</li> <li>- Coordination of environmental activities within governorate</li> <li>- Environmental Inspection and enforcement in coordination with EEAA in addition to participate in the EIA process as the competent administrative authority (within city boundaries)</li> </ul>

Source: (EEAA 2007; METAP 2006; World Bank 2005a)

However it should be noted that there are no effective mechanisms of coordination between these entities regarding coastal management.<sup>17</sup>

## 5-4 Conclusion

This chapter was designed to give an overview about Egypt in order to provide some understanding of the context within which ICZM initiatives sit.

The institutional arrangements and the legal frameworks for environmental and coastal management in Egypt are complex and fragmented based around sectorial responsibilities which are likely to influence the effective implementation of ICZM practice.<sup>18</sup> The next chapters will explore the ICZM initiatives in Egypt and examine them against the conceptual framework.

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<sup>17</sup> Further discussion and details about coastal management institutional arrangements and coordination mechanisms are developed in chapter 8

<sup>18</sup> This will be discussed in detail relating to the coastal management in chapter 8

## **Chapter 6: Egypt's first phase ICZM initiatives**



## **6- Egypt's first phase ICZM initiatives**

The previous chapter provided an overview of Egypt as the case study in order to understand its context before embarking on a more thorough evaluation of its ICZM initiatives against the conceptual framework. This chapter is concerned partially with the third objective of this research, which is to evaluate Egypt's ICZM policy and practice against the conceptual framework. In particular, the challenge is to explore the state of coastal management issues and ICZM initiatives in Egypt up to 2005.

Until the early 1990s, the government adopted a very aggressive development strategy aimed at promoting mass tourism both along the Mediterranean and the Red Sea coasts. The Ministry of Housing and New Communities financed a multi-million Egyptian pounds development of tourist villages and resorts along the western Mediterranean coastal line, aimed primarily at attracting international tourism. The tourists did not materialize due to the degradation of many parts of Egypt's Mediterranean coast. As a result, large villas and apartments which were built in these resorts were sold to the upper-middle and higher classes of Egyptian society. The establishment of government sponsored resorts led to the construction of multiple villages managed by different professional syndicates and private sector developers. There were no strategic land-use planning and no environment impact assessments (World Bank 2005a).

A similar approach of an aggressive development strategy was undertaken in the development of the Red Sea resorts centred in, and around, the town of Hurghada. Development was led by the private sector which in 1993 was provided with incentives including, a 10-year tax exemption, low cost land and ownership rights for foreigners to develop tourist villages and resorts. This subsequently encouraged the private sector to invest in more than 700 projects (Sowers 2003; World Bank 2005a).

Recognizing the impact of this development pressure as a major factor leading to deterioration in environmental quality, combined with external pressure from donors and international agencies, Egypt began to take some steps towards introducing coastal zone management. In fact, since the mid 1990s, several attempts at both national and local levels have been made to promote ICZM. During the first phase the actions that have been promoted include:

*At the National Level*

- Setting up the National Committee for ICZM (NCICZM) to draw up a consistent policy and strategy for future development along the coastal strip and to resolve conflicts between users;
- Preparing a national ICZM framework.

*At the Local Level two pilot projects*

- FUKA-Matrouh Coastal Area Management Programme (CAMP). The project elaborated a development plan for the future, based on the principles of sustainability, to be achieved through integrated planning and management of coastal resources;
- Red Sea Coastal and Marine Resource Management programme (RSCMRMP). The programme attempted to focus on the environmentally sound management of tourism developments in a way that could be productive for all concerned agencies.

Each one of these attempts will be described in the following sections. However, they will not be evaluated until chapter eight which evaluates all Egypt's first and second phases policy and practice against the conceptual framework. Hence this chapter is structured as follows. Firstly, it presents the ICZM national initiatives (Section 6-1). Then the next section (Section 6-2) illustrates the local ICZM projects by giving details of each project including the importance of the projects, their context, and their activities.

**6-1 National initiatives**

This section is subdivided into two parts. First, it presents the establishment of the National Committee for ICZM, and describes its members and proposed role (Subsection 6-1-1). Secondly, the history behind the preparation of the national ICZM framework will be explained with special emphasis being placed on its intended objectives (subsection 6-1-2).

### **6-1-1 Setting up the National Committee for ICZM (NCICZM)**

According to law (No.4/1994), the EEAA was designated to coordinate national ICZM activities. With this mandate the EEAA set up the NCICZM with its secretariat falling under the environment management sector of the EEAA. The NCICZM included top-ranking representatives from all the ministries concerned with coastal management as well as scientists and representatives from environmental NGOs (Abul-Azm, Abdel-Gelil & Trumbic 2003). The NCICZM consisted 18 members representing different stakeholders. To be more specific the NCICZM included 2 representatives from EEAA, 12 from other interested agencies/ministries, 2 private sector representatives, 1 from NGOs, 1 independent expert. The membership of the NCICZM is outlined in Table 6-1.

The function of The NCICZM was not only to draw up a consistent policy and strategy for future development but also to resolve conflicts between users. The tasks of NCICZM were (EEAA 1996a):

- To coordinate all ICZM activities of the competent administrative authorities by drafting, setting and approving general guidelines for all activities including EIA;
- To ensure that all land-use plans and development activities in the coastal areas were taking account of contingency arrangements;
- To harmonize proposed development activities and the carrying capacity of the ecosystem in order to ensure a sustainable use of available resources;
- To ensure active participation in drafting and preparing the ICZM plan;
- To ensure efficient implementation of the commitments of the Egyptian Government to all regional and international conventions concerning the protection of coastal areas;
- To approve programmes and plans concerning the protection of coastal areas and marine environment;
- To coordinate and specify mandates for the various authorities in the coastal zone;

- To study and evaluate all the major projects to be implemented in the coastal zone;
- To approve national arrangements relating to the protection of the coastal zone; and
- To consider any activities or projects related to ICZM;

Table 6-1 The members of the NCICZM

<b>Ministries /National Institutions</b>	<b>Title / position</b>	<b>Role in the NCICZM</b>
EEAA	Executive Director	Chairman of the Committee
Ministry of Agriculture- General Authority for Fish Resources Development	Head	Member
Ministry of Agriculture- Agriculture research centre	Head	Member
Ministry of Water Resources and Irrigation, SPA	Head of SPA	Member
Ministry of Water Resources and Irrigation, Shore Research Institute	Head	Member
Ministry Transportation	Head of the naval transportation sector	Member
Authority of Harbours and Lighthouses	Head	Member
Ministry of State for Scientific Research, National Institute of Oceanography and fishery	Head	Member
Ministry of State for Scientific Research, National Authority for Remote Sensing and Space Sciences (NARSS)	Head	Member
General Organization for Physical Planning (GOPP), Ministry of Housing, Utilities and New Urban Communities	Head	Member
Ministry of Tourism - Tourism Development Authority (TDA)	Head of the TDA	Member
Ministry of Defence	Chief of Naval Staff	Member
Ministry of Planning	Head of the Health, Social and Presidential Service Sector	Member
Egyptian General Petroleum Corporation EGPC, Ministry of Petroleum	Vice-Chairman	Member
Business private sector	Representative to be selected by the EEAA Executive Director	Member
National ICZM expert	To be selected by the EEAA Executive Director	Member
NGOs	To be selected by the EEAA Executive Director	Member
EEAA, the Coastal and Marine Zones Management department	Head	Reporter

Source: (EEAA 1996a)

Although the mandates of the Committee were set, it has not physically practised its mandates (El-Ghorab 2005). In fact, the NCICZM has not been functional. It held fewer than ten meetings between 1995 and 2001 and then became dormant (Borhan, Farouk & Hamdy 2003).

### **6-1-2 National ICZM framework**

This subsection describes the preparation of the national ICZM framework with especial emphasis on the Hurghada workshop which was the first step towards the preparation of the ICZM framework. The Hurghada declaration is described including an identification of the main issues for the majority of the interested ICZM actors in Egypt.

In 1995, the EEAA, working with two donors, the Danish Ministry of Foreign Affairs (DANIDA) and the Ministry of International Cooperation of the Netherlands (DGIS), jointly organized a coastal zone management workshop in Hurghada between 3<sup>rd</sup> and 7<sup>th</sup> of May. The workshop was attended by 50 Egyptian and nine foreign participants from the donor countries. The 50 Egyptian participants represented a large number of government organizations and institutions involved in coastal zone activities. These included all the ministries represented on the NCICZM, as well as members of the Egyptian scientific community, and media representatives. The main objectives of the Hurghada workshop were (Abul-Azm, Abdel-Gelil & Trumbic 2003; Awad 2000; Interview No.5 2007):

- To encourage the creation of a cooperating group of scientists and officials in Egypt as the backbone for planning and implementation of national Egyptian ICZM; and
- To prepare for the production of a coherent ICZM framework.

The Hurghada workshop was the first actual step towards developing ICZM in Egypt. The Hurghada workshop declaration contains a general definition for coastal zones in Egypt: *'The coastal zone is the domain of land-sea interface. It encompasses the territorial water and extends to areas of active interactions with the marine environment for at least 30 kilometres in the desert areas, unless major topographic features interrupt this stretch, while in the lower Nile Delta region the terrestrial part would be extended up to contour +3.00 metres'* (Fawzi & Abul-Azm 1996, p270).

In addition, the Hurghada declaration concluded that the main issues to be addressed in ICZM were:

*Shoreline erosion and flooding:* This issue deals with all problems related to coastal protection by natural and man-made protection systems. Natural, sandy coasts may be subject to erosion, leading to land loss and deterioration of the natural protection system. Erosion may also threaten the stability of man-made protection systems. Safety from flooding in flood-prone areas depends on the condition of both the natural and man-made protection systems. Both erosion and safety from flooding may be aggravated by human activities inducing, e.g. subsidence, climate change (changes in water levels and storm frequency), and changes to sediment budgets (Abul-Azm, Abdel-Gelil & Trumbic 2003; Alm 2006; EEAA 1996a).

*Irrational land use:* In view of the scarcity of suitable land resources and high development pressures related to rapid population growth, there is a high risk of uncontrolled and undesired land-use development. Problems arising from this are development in unsuitable areas (saline, polluted) or unsafe areas (land loss, flood risk), deterioration and over-exploitation of water and land resources and natural habitats, land-use conflicts between uses/users (agriculture, human settlement, tourism, nature preservation), and unbalanced or non-optimal development of scarce land. Coastal areas are specifically vulnerable to these developments. Hence, during the Hurghada workshop it was recommended by most of those attending that there was a need to enhance existing procedures related to land-use planning, their implementation on national and regional levels, and their integration with ICZM (EEAA 1996b).

*Water pollution:* The incidence of water pollution is a common threat to aquatic systems and especially to coastal water systems. These waters often serve as a sink to land-related pollution, for example from diffuse, large-scale sources related to agriculture (fertilizer, pesticides), and specific waste-water flows from point sources (EEAA 1996a). In addition, the coastal water problems are aggravated by coastal and marine-related pollution sources such as waste-water flows from domestic sources, industry and tourism, and spills from offshore activities and marine transport. In addition to the deterioration of natural resources and habitats, the water quality problems are a direct threat to public health, tourism and fisheries (Abul-Azm, Abdel-Gelil & Trumbic 2003; Alm 2006; EEAA 1996a).

*Deterioration of natural resources and habitats:* In addition a number of other activities also pose a direct threat to natural resources such as fish stocks, wildlife areas (turtles, birds), coral reefs, mangroves, etc. Examples of such threats are over-fishing, diving, anchoring boats, mining/excavation, land reclamation and cutting of mangroves (Abul-Azm, Abdel-Gelil & Trumbic 2003; Alm 2006; EEAA 1996a).

Based on the Hurghada declaration, in 1996 the NCICZM formulated an ICZM framework, called 'The Framework Programme for the Development of a National ICZM Plan for Egypt'. This document summarized the main problems encountered in the Egyptian coasts and drafted outline proposals for national ICZM guidelines to deal with these problems (Hanafy 2000).

The national framework programme of ICZM identified three follow-up activities designed to address the various issues and different timescales. The strategy thereafter defined long-term, medium-term and short-term objectives. Figure 6-1 shows how the three set of objective interact. To be more specific the three follow-up objectives in detail are:

*The long-term objective:* is to have in place a functioning national coastal zone management plan that provides clear guidance for all actions and activities in the coastal zones of Egypt. In five or ten years, this plan should be a binding document, ensuring the sustainable use of coastal resources based on integrated decision making

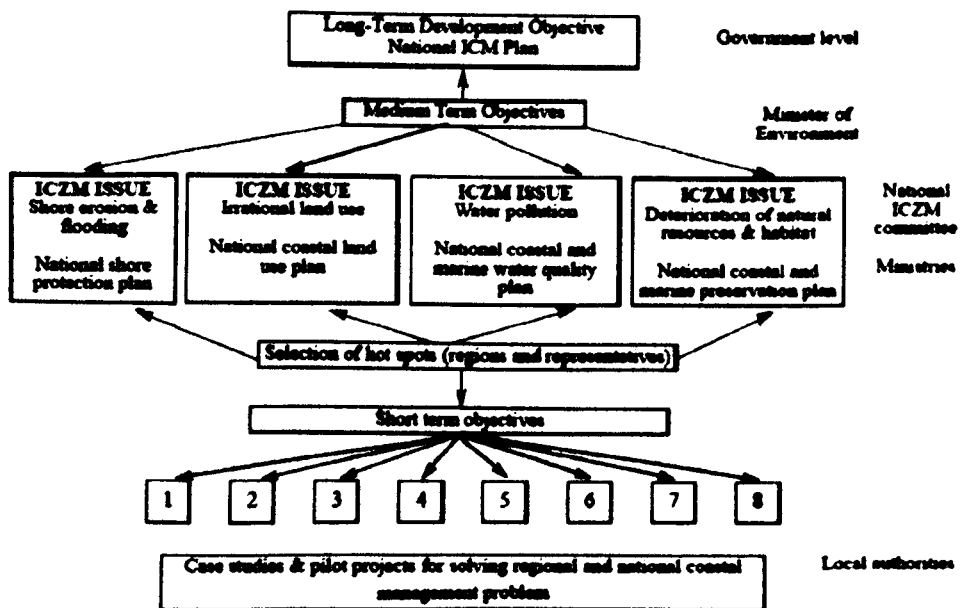


Figure 6-1 The national ICZM framework long-term, medium-term and short-term objectives

Source: (EEAA 1996b)

involving the various line ministries, agencies and the various other stakeholders. Within the long-term objective, medium- and short-term objectives should be developed. Two approaches would be promoted in an attempts to achieve these objectives: a top-down approach, where issues of national importance would be addressed, and a bottom-up approach where case studies and pilot projects focusing on particular problems in specific coastal areas would be undertaken.

*The medium-term objective* is to develop a series of sectorial national strategies or plans, focusing on the key issues:

- Shore protection leading to a National Shore Protection Plan;
- Coastal land-use planning leading to a National Coastal Land-Use Plan;
- Coastal and marine water quality management leading to a National Coastal and Marine Water Quality Plan;
- Preservation of coastal and marine resources and habitats leading to a National Coastal and Marine Resources Preservation Plan.

*The short-term objectives:* were to build the capacity and to enhance the role of the National Committee for ICZM, and to focus on the most urgent needs and requirements to ensure the successful development and implementation of a national ICZM programme.

Although the priority issues in ICZM were scientifically documented, the National ICZM Plan was never finalized and management actions were lacking (World Bank 2005a).

## **6-2 Local initiatives**

During this first phase of the ICZM it was also recognized that there was a need to develop ICZM projects on the ground to address particular issues in specific contexts. To be more specific during this phase two local projects Red Sea Coastal and Marine Resource Management Project and CAMP Fuka-Matrouh were conducted.



### **6-2-1 Red Sea Coastal and Marine Resource Management Project**

This subsection presents the Red Sea Coastal and Marine Resource Management (RSCMRM) project, by giving details of the project, including the importance of the project, its context, and the project activities.

The development of the tourist industry in Egypt had been actively encouraged by the government over the last three decades, especially for the Red Sea coast which began to attract international attention from divers due to the quality of the coral reefs and underwater life. This led to rapid and loosely controlled development around the town of Hurghada. With minimal land-use planning, land was allocated for development in an almost continuous belt along the coast. Public beaches and parks were lacking and basic infrastructure such as water and sewage systems followed years behind the development. The high density of development, ignorance of coastal and coral reef ecological systems and lack of forward planning and enforcement procedures has led to rapid deterioration and destruction of the coral reefs and a loss of natural tourist attractions in and around Hurghada (El Sherbiny, Sherif & Hassan 2006; World Bank 1992).

In recognizing the need for ecologically sustainable development of these resources the Egyptian Government requested funds from the Global Environment Facility (GEF) to develop a Red Sea Coastal and Marine Resource Management project that would focus on the environmentally sound management of tourism developments in a way that would be productive for all concerned agencies, the Tourism Development Authority (TDA), the EEAA and the Red Sea Governorate (RSG) (World Bank 2002).

Before discussing the initiatives of RSCMRM we need to realize the characteristics of the Red Sea Governorate to understand the motives behind the project initiation. It is these characteristics to which the research now turns.

#### **Red Sea Governorate**

The governorate is one of the largest in Egypt, with an area of 119,099 km<sup>2</sup>, representing 12% of the area of the country. However, the population density in the

governorate is very low. According to the 1996 census<sup>19</sup>, the population of the governorate amounted to 157,000 which gives a population density of around one and a half people per km<sup>2</sup> (for comparison, population density in the Nile Valley and the Delta is about 1,500 inhabitants per km<sup>2</sup>) (GOPP 2006). Figure 6-2 highlights where Red Sea Governorate is located.

Until recently, the Red Sea region had very few economic activities and is one of the least populated regions of Egypt. These activities included offshore oil exploration, phosphate mining, and fishing on a limited scale. Since the early 1990s the Red Sea region has been targeted for massive tourism development. In 2000, the existing number of hotel rooms was 10,549 representing 22.2% of the total hotel accommodation capacity in Egypt (Shaalán 2005). The target for 2012 is to achieve 140,000 rooms, primarily, by constructing new resorts and by expanding the existing ones. The majority of the resorts are built along a coastal stretch of about 300 km within about 50–300 m of coastal setback depending on the shoreline conditions (Shaalán 2005).

In fact the governorate could be divided into two main areas. The first area, the Hurghada-Safaga, was experiencing rapid development pressure from tourism, oil and other urbanization pressures. Most of the development activities were concentrated in and around the towns of Hurghada and Safaga with some undeveloped areas between the towns (World Bank 1992). The second area, Safaga south to the Sudanese border including Marsa-Alam, was undeveloped and contains a high diversity of coastal and marine habitats that are rich in species diversity (World Bank 1992).

Therefore, both of these areas are in need of protection as well as offering nature-based tourism opportunities. To be more specific, Wilson, Meyer & Skeat (1998) highlight that the major problems and issues of the Red Sea Coast can be summarized as:

- Reef degradation through intensive diving pressure and anchor damage;

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<sup>19</sup> According to the 2006 census, the population of the governorate amounted to 288,660 (CAPMAS 2009)



represented by the stretch of coast from 60 km north of Hurghada through Safaga, to Marsa-Alam and southward to the Sudanese border. Figure 6-3 shows the project study area. The implementation of the CZM programme was proposed for the two areas, that is, the stretch of coast between and including the towns of Hurghada and Safaga, and the other the undeveloped coastal area including Marsa-Alam towards the Sudanese border (World Bank 1992).



Figure 6-3 The RSCMRM project study area

Source: (GEF 1998; Google 2010)

The RSCMRM was funded by the Global Environment Facility (GEF) through the World Bank. The GEF allocated US\$4.75 million for the project, with the Egyptian Government providing in kind funding of US\$0.98 million. This gave a total project budget of US\$5.73 million (GEF 2002).

The main goal of the project was to protect the biodiversity and prevent pollution of the Red Sea (World Bank 2002).

The stated objectives of the project were to:

- Develop and implement policies, plans and regulations that ensure that development is consistent with sound environmental management to protect the shared marine resources of the Red Sea coastal zone;
- Strengthen the capacity of government institutions to carry out integrated multi-sectoral coastal zone management activities;
- Develop and implement public–private partnerships to assure that economic development is consistent with sustainable environmental management and common marine resources;
- Develop and implement practical solutions for the establishment, management and recurrent funding of marine protected areas and marine recreational resources; and
- Develop a database using a geographical information system (GIS) and inventory of the coastal and marine ecosystem and resource uses that would be available to governments, universities and private sector interests for the purpose of expanding the knowledge base of the Red Sea (World Bank 2002).

To achieve these objectives the project team suggested many activities. These are described in the next section.

### **Project activities**

The project started in 1994. The project was originally designed to be implemented over a 36-month (three-year) period, with two main phases:

- Preparation of a CZM Plan over the first months 1–15
- Initial implementation of activities from the CZM findings during months 15–36 (World Bank 1992).

However, the project continued to stay in the first phase until 1997 because of weak project management, and an overly ambitious project design. The second phase started in 1997 and the project was completed in 2002 (World Bank 2002).

The project team therefore divided the work into two broad phases (World Bank 1992).

### *Phase 1: Diagnosis and planning*

The first phase looked to create an evidence base within which a generic plan or framework could be developed. In this phase a scientific analysis of the resources and zones along the coast according to the allocation of significant areas for conservation and development was carried out. A database was established incorporating existing information and new surveys, within a Geographic Information System (GIS) as an active planning tool. A CZM plan with policies for zoning and managing coastal and marine resources was developed including a programme of inter-sectoral coastal zone management during the project implementation phase and beyond (World Bank 2002).

### *Phase 2: Implementation*

The first phase paved the way for more concentrated actions and evaluations in the second phase. These actions can be identified as:

*Environment assessment capability:* The development of the environmental assessment capability of the TDA and the EEAA involved evaluating, regulating and monitoring the impacts of coastal development, including tourism, and oil and gas exploration, in recognition of the fact that one of the most potentially effective mechanisms to support environmentally sound development is the Environmental Impact Assessment (EIA) process. This component would develop EIA practices for tourism and all other development activities impacting on the coast. It would improve the capability of the TDA and the EEAA to manage EIA requirements. The TDA's environmental unit and the EEAA's EIA unit would be staffed and trained in coastal zone management EIA procedures, and produce a manual on EIA procedures to be used by developers and other agencies (GEF 1998).

*Marine pollution control:* The development of the capacity to monitor and enforce marine pollution control rules and regulations was developed under the CZM plan between TDA, EEAA and Red Sea Governorate staff. Rather than establishing an independent regulatory system for CZM, the project would facilitate the coordination and strengthening of capacities between the TDA, EEAA, RSG and other agencies. A Red Sea office would be established in the governorate with a monitoring and enforcement unit to coordinate these responsibilities (GEF 2002).

*Reef recreation management:* The management of recreational activities to protect the valuable and fragile coral reef habitats and to promote training, public awareness and sustainable visitor use and enjoyment aimed to be achieved through the development of a Reef Recreation Management Action Plan and Programme. The establishment of a Reef Recreation Management Unit was intended to be responsible for the management arrangements between public and private sectors, and other entities (GEF 2002).

*Protected areas management:* This included the identification of marine protected areas, the preparation of operational plans for management of these areas and the training of necessary staff (GEF 2002).

*CZM monitoring and evaluation:* The reviewing, monitoring and evaluation of the CZM project examines whether its biodiversity and pollution prevention goals are being achieved and whether the project was sustainable (GEF 2002).

The essence of this project consisted of proposed actions and management measures to respond to the identified problems, opportunities and issues of the Red Sea, and required follow-on activities (GEF 1998). However, not all the actions have been achieved. There were many obstacles confronting the project which meant it was not able to achieve its original objectives (World Bank 2002).

## **Synopsis**

In recognizing the need for ecologically sustainable development of the Red Sea resources, the Egyptian Government requested funds from GEF to develop a RSCMRM project that had its focus on the environmentally sound management of tourism developments in a way that would be productive for all concerned agencies (World Bank 2002). The project was started in 1994 and was planned to be completed in three years but in reality it took more than seven years.

The major achievement of this project has been its success in bringing together the three implementing agencies in an unprecedented working partnership. An essential instrument to this success was the creation of the Project Management Group comprising the heads of the TDA, the EEAA and the RSG.

### **6-2-2 CAMP Fuka-Matrouh**

This subsection gives details of the CAMP Fuka-Matrouh project including: the importance of the project, its context, and the project activities.

Declining trends in the environmental quality of the Mediterranean Sea were evident more than three decades ago, when the countries bordering the Mediterranean convened a meeting in Barcelona to adopt the Mediterranean Action Plan (MAP) in 1975, and the Convention for the Protection of the Mediterranean Sea against Pollution (the Barcelona Convention) in 1976. The MAP and the Barcelona Convention are being developed through a series of Protocols which enhance and develop the original Convention, as well as delivering specific programmes carried out by relevant MAP Regional Activity Centres (RACs).

In fact, 21 Mediterranean countries and the European Union are the Contracting Parties to the Barcelona Convention, and are responsible for its implementation. The Contracting Parties are supported by the Secretariat of the Barcelona Convention entrusted to UNEP and its Coordinating Unit (MEDU), and by six MAP RACs, based in European Mediterranean countries : France (Blue Plan RAC); Croatia (Priority Actions Programme (PAP/ RAC); Tunisia (Specially Protected Areas RAC); Malta (REMPEC); Italy (Environment Remote Sensing RAC); and Spain (Clean Production RAC). The RACs are tasked with undertaking specific activities within the framework of the Barcelona Convention (PAP 2005).

In addition, the Environmental Programme for the Mediterranean (EPM) was launched in 1988. Two years later, under the same programme, the Mediterranean Environmental Technical Assistance Programme (METAP) was initiated by the World Bank (WB) and the European Investment Bank in partnership with the European Union and the United Nations Development Programme (UNDP). METAP's mission was to mobilize grant funding to assist Mediterranean countries, particularly those of the southern and eastern rim, to prepare policies, programmes and investment projects that effectively address constraints to environmentally sustainable development in the region. The Coastal Area Management Programme (CAMP) was a phase of METAP and a part of the Priority Actions Programme which was an element of the Mediterranean Action Plan for sustainable coastal management. The programme was designed to integrate environmental concerns into development planning and practice, oriented towards improving understanding and



resolving practical environmental, development and management problems at local and national levels in Mediterranean coastal areas (El-Raey 1999a).

The CAMP Fuka-Matrouh was part of a series of CAMP projects approved at the Sixth Ordinary Meeting of the Contracting parties, held in Athens in 1989. During the 1989–2001 period, eight CAMP projects were implemented in eight Mediterranean countries, one of which was Egypt. The conceptual framework of MAP/CAMP is based on the principles of sustainable development and ICZM (PAP 2005).

Before discussing the initiatives of CAMP in the Fuka-Matrouh area we need to understand the characteristics of the Matrouh Governorate within which the project was executed.

### **Matrouh Governorate**

The governorate is one of the largest in Egypt, with an area of 212,000 km<sup>2</sup>, representing 22% of the area of the country. Figure 6-4 highlights where Matrouh Governorate is located. The population density in the governorate is very low. According to the 1996 census<sup>20</sup>, the population of the governorate amounted to 212,000 which gives a population density of around one person per km<sup>2</sup> (for comparison, population density in the Nile Valley and the Delta is about 1,500 inhabitants per km<sup>2</sup>) (PAP 2005). Marsa Matrouh city and its hinterland is the capital of the governorate and has the biggest concentration of the population, around 90,000 inhabitants, representing about 40% of the total governorate population.

The governorate population can be classified into two different social groups, the Bedouins as the native population, and immigrants who have migrated from the Nile Valley. The Bedouins used to live a nomadic life, but are now mostly settled in rural areas and in the desert, while the immigrants live in urban centres and are largely employed in government services and the construction industry (El-Raey 1999a).

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<sup>20</sup> According to the 2006 census, the population of the governorate amounts to 323,381 (CAPMAS 2009).

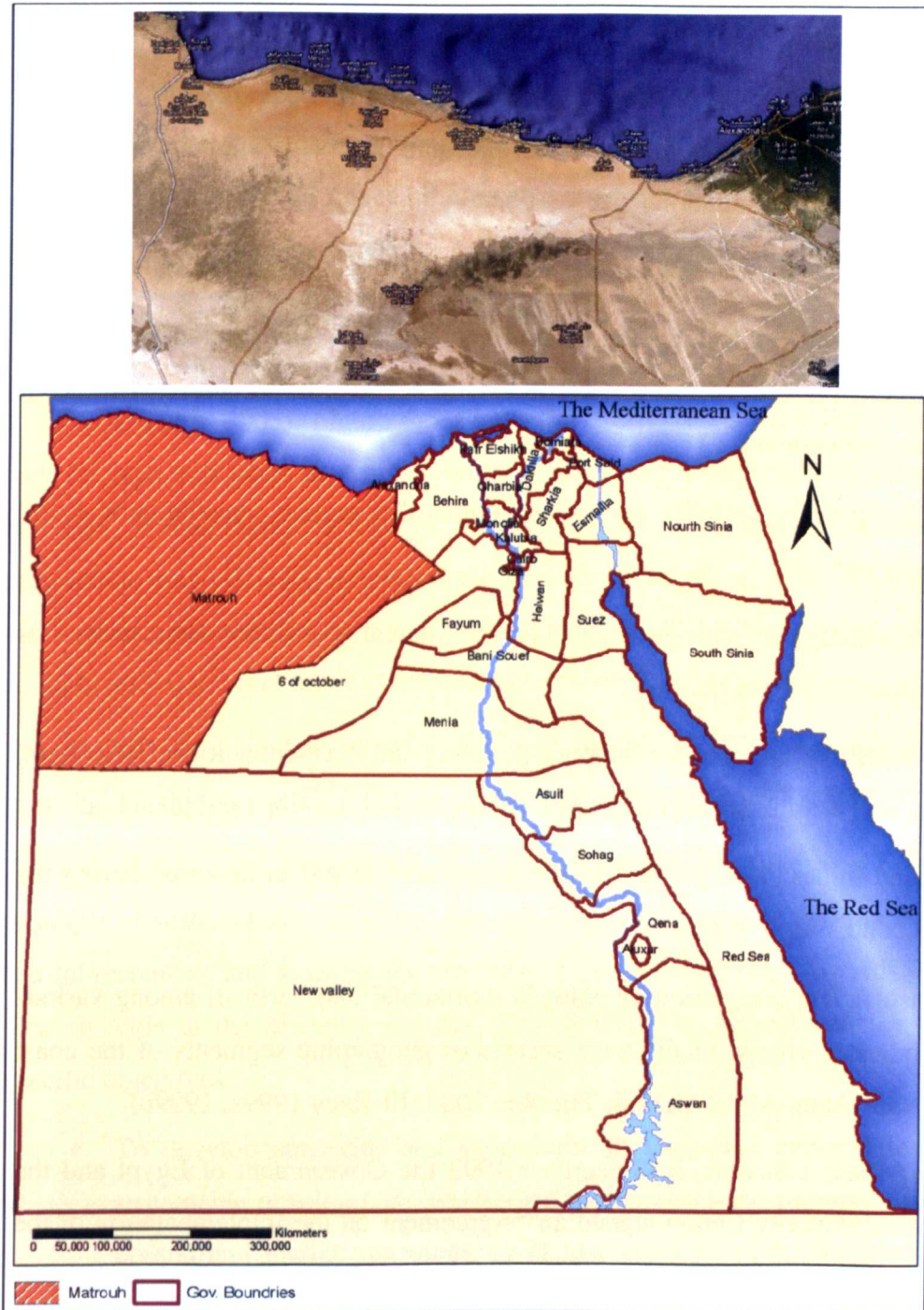


Figure 6-4 The Matrouh Governorate location

Source: (Google 2010; IDSC 2008)

The governorate encompasses almost 500 km of coastline and is characterized by an arid Mediterranean climate, with an average rainfall along the coast of 100–180 mm per year. The primary source of income is derived from cattle production and planting. The coastal zone has undergone degradation since the eleventh century, resulting from neglect, wars, nomadic life, cutting of trees and over-grazing (El-Raey

1999a). Another phenomenon is the business of building tourist villages along the coast. The majority of these villages are planned and designed as summer houses (secondary homes), intended chiefly to be sold in the domestic market. As such they are not used more than a few weeks of the year, and do not provide any significant new jobs for the local population (PAP 2005).

The major problems and issues that face the area can be summarized as follows:

- Uncontrolled development of tourism which mostly excludes the local population as beneficiaries, while having negative impacts on environment and infrastructure;
- Disregard for complex natural conditions that require sensible agricultural policies;
- Degradation of ecologically and environmentally sensitive areas, as well as valuable cultural heritage;
- Absence of an effective land-use planning and development control system, as well as of a participatory approach in overall development planning;
- Land mines, 17% of the world's mines are planted in this area during the Second World War;
- Insufficient integration of policies (horizontal and vertical) among various bodies in charge of different sectors or geographic segments of the coast (Abul-Azm, Abdel-Gelil & Trumbic 2003; El-Raey 1999a, 1999b).

Recognizing these concerns, in September 1993 the Government of Egypt and the MAP Regional Activity Centre signed an "Agreement on the Implementation of the Coastal Area Management Programme for the Area of Fuka-Matrouh (Egypt)" (El-Raey 1999b). It is the project to which the research now turns.

### **CAMP Fuka-Matrouh context**

According to the agreement between Egypt and the MAP Regional Activity Centre, the latter agreed to implement a number of activities, in cooperation with the EEAA and the Institute of Graduate Studies and Research (IGSR) in Alexandria, with the main goal of ensuring sustainable development of the Fuka-Matrouh area (El-Raey 1999a).

Taking into consideration its special characteristics, including the vicinity of the capital of the governorate, it was agreed that the area to be covered by the project should be approximately 100 km of coastal belt covering the area which starts from the city of Matrouh to the Fuka area in the east. As regards the width of the area, it was agreed that it should cover an area ranging from 10 to 20 km from the coast, depending on the land topography.

The Fuka-Matrouh area is located in the central coastal part of the Matrouh Governorate which occupies the north-western portion of Egypt (Abul-Azm, Abdel-Gelil & Trumbic 2003). Figure 6-5 shows the project study area Fuka-Matrouh. In fact, the area was taken as representative of the wider Mediterranean coastal region in Egypt. It was therefore seen as an experiment or test area to see whether the programme could develop strategies and procedures at a local level in harmony with the national policies for sustainable development. It was hoped that experiences could be rolled to other areas in the country as a whole (PAP 2005).

The CAMP was funded by METAP and the Egyptian Government. METAP provided \$300,000, and \$100,000 in kind was provided by the EEAA (PAP 2005).

The main goal of the project was the future development of the area based on the principle of sustainability, achieved through integrated planning and management of coastal resources, and to direct the attention of the policy makers towards ICZM and modern tools in the planning process (PAP 2005). The project had the following specific objectives:

- To develop strategies and procedures at local and national levels for a sustainable development, environment protection and rational utilization of coastal and marine resources, to be also used as inputs for Mediterranean strategies for sustainable development;
- To identify, adapt and test, in a realistic operational context, methodologies, tools and practices for sustainable coastal management in the region;
- To contribute to the upgrading of relevant national/local institutional and human capacities;
- To secure a wider use, at national and regional levels, of experience and results achieved by the programme and its individual projects; and

- To create the conditions for follow-up (El-Raey 1999a).

To achieve these objectives the project team suggested many activities, some of which will be described in the next section.



Figure 6-5 The project study area Fuka-Matrouh

Source: (Aruoba 1996; Google 2010)

### Project activities

The project was started in 1993 and completed in 1999. It comprised two phases of activities.

### *Phase I Diagnosis*

This phase was sectoral-based and focused on individual issues primarily from the analytical phase of the planning process. It resulted in the comprehensive production of precise information to support decision and policy making in the second stage of the planning process (Abul-Azm, Abdel-Gelil & Trumbic 2003). This phase included six activities:

*Systemic and Prospective Analysis:* The study elaborated an interactive relationship between development and environment in a long-term, 30–50 years time horizon. The geographic reference was a wider area – the Matrouh Governorate and the Mediterranean coast of Egypt. Considering future development paths, the analysis took into account global and regional trends and impacts, and identified conflicting zones, sectors and key actors, as well as necessary interventions.

*Implications of Climatic Changes:* The objective of this activity was to assess the possible implications of expected climatic change on ecosystems, land-use and sea-use practices, and other human activities of the coastal area of Fuka-Matrouh, and to propose suitable management and policy response options.

*Soil Erosion, Desertification and Water Resources:* The main objective of this activity was to gain the necessary knowledge to prevent the degradation and loss of agricultural land. The basic study was performed in two pilot zones representative enough to enable the transfer of results to the wider study area.

*Assessment of Natural Resources and Soil Conservation Issues Supported by Remote Sensing:* This study provided an integrated survey of land resources of the study area. The applied methodology included the use and interpretation of satellite images, field survey, laboratory analysis and additional processing, as well as corrective image interpretation.

*Specially Protected Areas – Marine/Terrestrial Ecosystems and Cultural Heritage:* This study proposed management measures including the identification of the main terrestrial and marine ecosystems, and determination of the level of their ecological sensitivity. Moreover, a definition of the site zoning was expressed, with a core area, exclusion zone, buffer zone, and approaches and service area. In addition, other management measures were discussed, such as potential revenue-generating facilities.

*Geographical Information Systems (GIS):* The main product of the activity is a geographic database developed for the study area that covers the main natural, physical and socio-economic features of the area (El-Raey 1999a; PAP 2005).

*Phase2 integrated studies:*

This phase of activities integrates information and knowledge gained from the analytical phase and produced an integrated physical development strategy at a regional level (ICZM planning study) (Abul-Azm, Abdel-Gelil & Trumbic 2003).

This phase contained three activities:

*Carrying Capacity Assessment for Tourism Development:* The existing tourism development patterns of the Fuka-Matrouh coastal area (dominated by secondary residence resorts for the domestic population) tend to produce tourist saturation of the area for a relatively short period. Carrying capacity was further elaborated to estimate the maximum accommodation capacity of the entire area using three main categories of parameters: a. the physical-ecological parameters, b. the socio-cultural parameters, c. the political-economic parameters. This was an important input for planners in the preparation of the integrated coastal management Planning Study for the coastal area of Fuka-Matrouh.

*Strategic Environmental Assessment of the ICZM Planning Study:* Strategic Environmental Assessment of the ICZM Planning Study was chosen as an appropriate tool to assess not only the individual projects within the usually very limited geographic area, but also whole development programmes or plans covering wider coastal segments (i.e. additive impacts of tourist villages in the whole Fuka-Matrouh coastal strip). This provided an opportunity for the responsible authorities to anticipate the cumulative impacts of a number of similar projects which, if considered individually, may not impose danger to the environment, but assessed as a whole may show quite a different picture.

*Integrated Coastal Zone Management Planning Study for the Coastal Area of Fuka-Matrouh:* The ICZM Planning Study synthesized all the knowledge and recommendations gained by individual activities and sectoral studies. The study identified the main development issues, and formulated a management strategy, action plans and implementation guidelines (El-Raey 1999a; PAP 2005).

## **Synopsis**

The CAMP Fuka-Matrouh project was started in 1993 and completed in 1998. The project was funded by METAP and the Egyptian Government to tackle major problems and issues in the Fuka-Matrouh area (PAP 2005). The project elaborated a development plan for the future based on the principles of sustainability, achieved through integrated planning and management of coastal resources. It was composed of two groups of activities: those primarily sectoral, focused on individual topics or issues which mostly make up the analytical part of the planning process; and those activities that integrate the information and knowledge gained in the analytical phase in the form of outputs, such as the ICZM Study. To sum up, the Fuka-Matrouh project provided a comprehensive scientific and technical analysis, and proposed a sound and ambitious development concept, but did not get as far as implementation.

## **6-3 Conclusion**

The initial phase of ICZM initiatives, specifically from 1994 until 2005, has been presented as a first stage in evaluating Egypt's ICZM against the conceptual framework.

In conclusion since the mid 1990s several initiatives have taken place at both national and local levels to promote ICZM in Egypt. At the national level the NCICZM was setup and the national ICZM framework was prepared. Furthermore at the local level two pilot projects were conducted, supported by international donors. One was concerned with part of the Mediterranean coast and the other was concerned with part of the Red Sea coast.

The research now turns to describe Egypt's second phase ICZM initiatives at both national and local levels.



**Chapter 7: Egypt's second phase ICZM  
initiatives**

## 7- Egypt's second phase ICZM initiatives

This chapter describes Egypt's second phase of ICZM initiatives. In particular, the challenge is to explore the state of coastal management issues and ICZM initiatives in Egypt after 2005 in order to explain the context for evaluation against the conceptual framework.

Whilst the ICZM process in Egypt effectively stopped after 2001. The EEAA, between 2001 and 2005, prepared a number of studies and reports regarding the quality of the environment and the cost of environmental degradation. These reports were supported by international donors and aimed to highlight a clear and accurate image of the importance of environmental quality to the sustainable development especially in coastal zone. For example, the State of the Environment Reports highlighted that in 2001 damaged reefs in the Red Sea region (especially in Hurghada) were estimated to be affecting approximately 20% of the total reef area (EEAA 2005). Furthermore by 2005, more than 30% of the reefs were severely damaged and this was having a severe affect on tourism development in the region (EEAA 2006a). Based on this evidence, central government re-appraised the importance of sustainable development especially for the coastal zones (Interview No.1 2007). In 2005 central government responded to the EEAA demands and amended the environmental regulations to enhance the power of the EEAA. In fact, some legal provisions (Law 4/1994) were amended by a Prime Minister's Decree No. 1741 of 2005. The main achievement of these amendments relating to coastal zones was to make Environmental Impact Assessments (EIA) mandatory for all new and modified projects (this includes all the projects to be established or extended in coastal zones) and gave the EEAA the right to approve or refuse any new or extension projects based on the EIA (ENPI 2007).

Furthermore, since 2005 several attempts at both national and local levels have been made to promote ICZM. During this second phase the actions that have been promoted include:

### *At the National Level*

- The NCICZM was re-established at the end of 2007 with the same members and the same mandates.

- The environmental regulations (Law 4/1994) were amended in 2009 by issuing new environmental regulations (Law 9/2009) to introduce new articles relating to coastal management.
- The EEAA with assistance from PAP/RAC in 2009 started to prepare the National ICZM Strategy for Egypt.

### *At the Local Level*

Three new local projects, supported by international donors, were started in 2006. The purpose of these projects was to formulate local ICZM plans for parts of Egypt's Mediterranean coast which was under intense pressure. These projects included:

- Two ICZM programmes in Alexandria and Port Said on the Mediterranean coast, financed by the EU through the Short and Medium Term Priority Environmental Action Programme (SMAP).
- An ICZM project in Matrouh, called the Cooperation in the Development of a Plan for Integrated Coastal Zone Management between Matrouh and El Sallum (MSICZMP), financed by the Spanish Agency for International Cooperation. The project aims to develop an ICZM plan for the selected coastal area.

Each one of these initiatives at both national and local levels will be described in the next sections. They will not be evaluated until chapter eight. This chapter firstly presents national initiatives (Section 7-1) followed by (Section 7-2) which illustrates local ICZM projects.

## **7-1 National initiatives**

This section is designed to present the ICZM national initiatives. Firstly, it presents the re-establishing of the NCICZM (Subsection 7-1-1). Then, the new environmental regulation is described (Subsection 7-1-2). Finally, the preparation of the national ICZM strategy is presented with special emphasis on its phases and objectives (Subsection 7-1-3).

### **7-1-1 Re-establishing the NCICZM**

A Ministerial Decree constituting the re-establishment of the NCICZM was issued in December 2007. The decree stated that according to law (No.4/1994) the EEAA had been appointed to coordinate national ICZM activities. With this mandate the EEAA re-established the NCICZM with its secretariat, falling under the environment management sector of the EEAA. The NCICZM included top-ranking representatives from all the ministries and authorities concerned with coastal management, as well as, scientists and a representative from the NGOs. In fact, the NCICZM was re-established with the same members,<sup>21</sup> and the same mandate to draw up a consistent policy and strategy for future development along the coastal strip and to try to resolve conflicts between users (George 2007).<sup>22</sup>

### **7-1-2 The new environmental regulations (Law No.9/2009)**

In February 2009 the environmental regulations (Law 4/1994) were amended by issuing new environmental regulations (Law 9/2009). The amendments to Law 4/1994 related to the definition of the coastal zone and the definition of ICZM (EEAA 2009d).

The new environmental law (9/2009) re-affirmed the coastal zone definition which was declared in the Hurghada workshop (section 7-2), namely:

*“The coastal zone is the domain of land–sea interface. It encompasses the territorial water and extends to areas of active interactions with the marine environment for at least 30 kilometres in the desert areas, unless major topographic features interrupt this stretch, while in the lower Nile Delta region the terrestrial part would be extended up to contour +3.00 meters”* (Egypt 2009).

Furthermore the law (9/2009) stated that the ICZM is

*“A dynamic and iterative process initiated, designed and implemented by a government to solve conflicts among different uses of coastal resources, including land-use plans and should promote sustainable development and uses of coastal resources”* (Egypt 2009).

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<sup>21</sup> For more details refer to Table 6-1 which shows the members of the NCICZM

<sup>22</sup> For more information see subsection 6-1-1

The law, also, required the EEAA to develop a national ICZM strategy.

### **7-1-3 National ICZM strategy**

At a request made by the EEAA addressed to PAP/RAC<sup>23</sup> to provide assistance in the preparation of the National ICZM Strategy for Egypt, three workshops took place in order to help in preparing the strategy (EEAA 2009c). The main idea was to create an ICZM strategy through a participatory process by involving the major stakeholders responsible for implementation (PAP 2009).

The initiative falls within the objectives of the SMAP III Technical Assistance project which was financed by the European Commission and implemented by a consortium of international consulting firms in partnership with PAP/RAC (SMAP 2009). The SMAP III project aimed to support the objectives of the Euro-Med Partnership in the environment by encouraging ICZM around the Mediterranean in the light of the rapid deterioration of this most sensitive area (Kafafi 2007). This was an action recommended through the meeting of the Mediterranean parties responding to the Convention for the Protection of the Mediterranean Sea, including the European Community, held in Catania, in November 2003. The objective of the SMAP III project was “Promoting awareness and enabling a policy framework for environment and development integration in the Mediterranean with focus on Integrated Coastal Zone Management”, and was a step forward towards the implementation of the ICZM Protocol for the Mediterranean (SMAP 2009).

Thus the EEAA, supported by the decision of the NCICZM, requested a fund to develop the national ICZM strategy from SMAP III in 2008. The structure of the strategy and the process of its preparation were discussed and agreed upon at the meeting of PAP/RAC and EEAA representatives held in Cairo in November 2008 (EEAA 2009c).

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<sup>23</sup> The Priority Actions Programme Regional Activity Centre (PAP/RAC) was established in Split, Croatia in 1980 by a decision of the Intergovernmental Meeting of 1977 to assist in the implementation of the Integrated Planning Component of the Mediterranean Action Plan (MAP) adopted in Barcelona in 1975. Its original mandate was broad in scope and encompassed ten priority actions in six fields of activity that required immediate action. With the further development of MAP, and in light of the challenges of the global environmental context, especially those relating to coastal areas, the focus of PAP/RAC's operations was subsequently repositioned to respond to the need for the sustainable development of the region's coastal areas, particularly through ICZM (PAP/RAC 2005).

This preparation of the workshops involved developing an Egyptian coastal management context report. This report was prepared by the EEAA to help the participants in the national ICZM strategy workshops to understand the current coastal zone challenges in Egypt. The aim was to prepare a comprehensive report that could be distributed to the workshops' participants. This report was used to define the current state of coastal management issues and ICZM initiatives in Egypt, including a review of past-achieved and any on-going activities within the context of ICZM (EEAA 2009c).

Using this as a baseline, the three workshops held in Cairo were organised to help prepare for the National ICZM Strategy. Each workshop was attended by at least 40 participants, including the representatives of the EEAA and PAP/RAC, representatives of the coastal governorates, the NCICZM members and national ICZM experts (EEAA 2009c). This inclusive participatory approach was designed to be part of the evidence gathering process confirming or supplementing the basic information before the national strategy could be developed. Each one of these workshops is described below.

*Agreement on a long-term vision (1st workshop):* The first workshop took place on 29 January 2009. The workshop was split into two sessions that were organized to gather the collective opinion of the participants. The first session focused on gathering opinions around the current context of coastal management in Egypt, while the second requested participants to come up with a collective desired vision of the situation of the Egyptian coast in 50 years (EEAA 2009c; PAP 2009). Although the participants were split into working groups through both sessions to develop and discuss their own vision of what ICZM should become in 50 years, the workshop was declared closed without having spelt out a common shared vision statement between the groups (EEAA 2009c).<sup>24</sup>

*Identification and validation of the priority issues (2nd workshop):* The second workshop was held on 5 March 2009 (PAP 2009). This workshop aimed to discuss the priorities related to coastal zone management in Egypt, for both the

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<sup>24</sup> The researcher attended this workshop as a one of the national experts in coastal management and applied a participant observation data collection method.

Mediterranean and the Red Sea. The participants were presented with various issues and were asked to prioritize them according to their importance (PAP 2009).

The workshop concluded that the priorities for effective ICZM were:

- Solving inter-sectoral disputes;
- Adapting governance through efficient coordination.
- Achieving leverage for implementation through legal, financial and managerial mechanisms; and
- Guaranteeing capacity building in both ICZM concept and tools for existing staff and stakeholders, by increasing the number of qualified staff within the EEAA and the other stakeholders at both national and local levels (EEAA 2009a).

*Identification of key objectives and associated roadmap (3rd workshop):* The third workshop was held on 23 April 2009. The main objective of this workshop was to identify, discuss and define the ICZM strategic objectives and outline a roadmap for their implementation (EEAA 2009b).

Three strategic objectives were identified from the workshop:

- Strengthening ICZM policy;
- Planning the sustainable use of coastal resources; and
- Promoting public awareness (EEAA 2009b).

The workshop emphasized the importance of coordination (inter-agency and inter-sectorial) to ensure successful development and implementation of the ICZM plans (sub-national and local levels) within National ICZM Guidelines (EEAA 2009b).

It was concluded that all results from all three workshops could be utilized by the EEAA in preparing the first complete draft of the National ICZM Strategy. This would then be submitted to the NCICZM to discuss and give its comments before the final strategy for approval and adoption would be provided (EEAA 2009b).

## **7-2 Local Initiatives**

This section describes the local projects in order that the reader has a clear vision of the ICZM second phase initiatives in Egypt. In this phase, three local projects have taken place – in Alexandria, Port Said, and between Matrouh and El Sallum. This section describes these local initiatives by giving details of each project, including the importance of the projects, their context, and their activities.

### **7-2-1 Alexandria Lake Maryut Integrated Management (ALAMIM)**

The ALAMIM project was one of eight projects in the Mediterranean Sea, two of which were in Egypt, financed by the European Commission's Short and Medium Term Environmental Action Programme (SMAP III). The ALAMIM project aimed at promoting sounder and more sustainable development in the coastal zone of Alexandria through the promotion of integrated management of the Lake Maryut Zone, one of the major sources of land-based pollution into El Mex Bay in the Mediterranean Sea. The project also aimed to utilize a participatory integrated method of action planning for this zone encompassing environment protection, economic development and the needs and interests of all stakeholders (SMAP 2008a).

Before discussing ALAMIM initiatives we need to realize the characteristics of the Alexandria Governorate within whose jurisdiction the project took place.

#### **Alexandria Governorate**

The Alexandria Governorate is situated in the west of Nile delta area and adjacent to the Mediterranean Sea. Figure 7-1 highlights where Alexandria Governorate is located within this region. The governorate includes the city of Alexandria. The length of the Mediterranean coastline within the governorate's jurisdiction is 82 km. The governorate has a population of about 4 million with an additional 1 to 1.2 million visitors during the summer months. Furthermore, it also has a heavy concentration of Egypt's industry, about 40% (CAPMAS 2009).



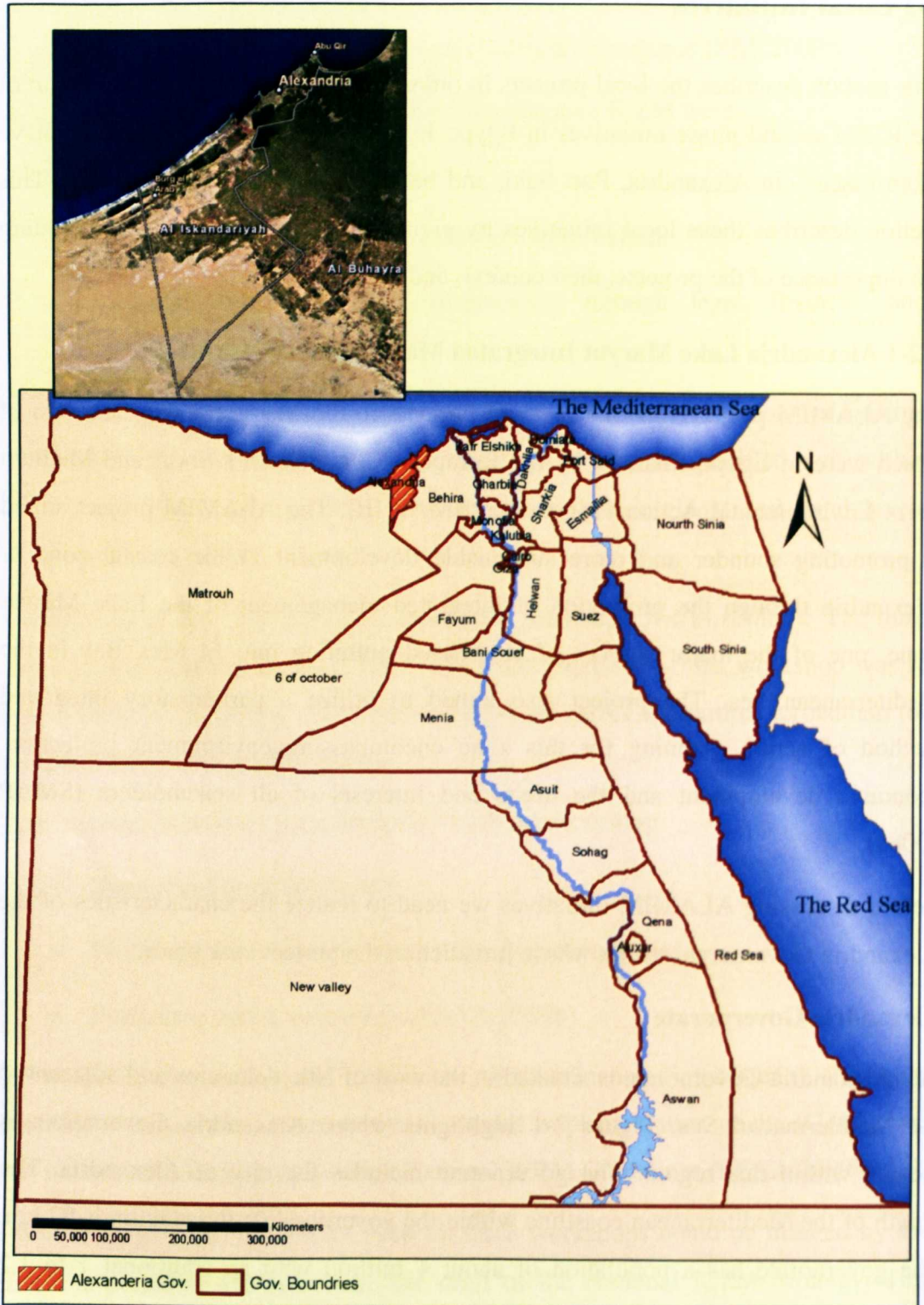


Figure 7-1 The Alexandria Governorate location

Source: (Google 2010; IDSC 2008)

One of the main features of this governorate is the area of Lake Maryut (also spelt Mariout or Mariut), which is one of the northern Egyptian lakes, located in the north-western coast of Egypt and actually forms the southern border of Alexandria. Lake Maryut is a salt Lake, or rather brackish. It is separated from the Mediterranean Sea

by the narrow isthmus on which the city of Alexandria was built. The Lake shore is home to fisheries and salt works. Some of the marshy areas around the Lake have been reclaimed for new building as the city has grown (ALAMIM Team 2008).

The Lake was formed at least six thousand years ago. The present Lake represents the remnant of a huge ancient prehistoric Lake Maryut. It covered an area of approximately 700 km<sup>2</sup> (AbuZahra 2000). The Lake since 1892 has been fed by drainage canals. In order to keep the Lake at a level of 3 m below sea level, excess water is pumped into the sea by the Al-Max Pumping Station, created for this purpose. It can be said that today's Lake is partly creation of the extensive Nile drainage system (Helmy 2007).

The original Lake extends more than 40 km south-east and 70 km south-west along the Mediterranean coast. The width of the Lake has been estimated at 24.5 km while its length at about 44.5 km. The total surface area of the current Lake (aquatic plants and open water) is 63.46 km<sup>2</sup>. The Lake is very shallow, its average water depth being around 1 m. The area covered by a large mass of aquatic plants represents of 60.08% of the total area of the Lake (Fishar 2008). Figure 7-2 shows the old and current area of Lake Maryut.

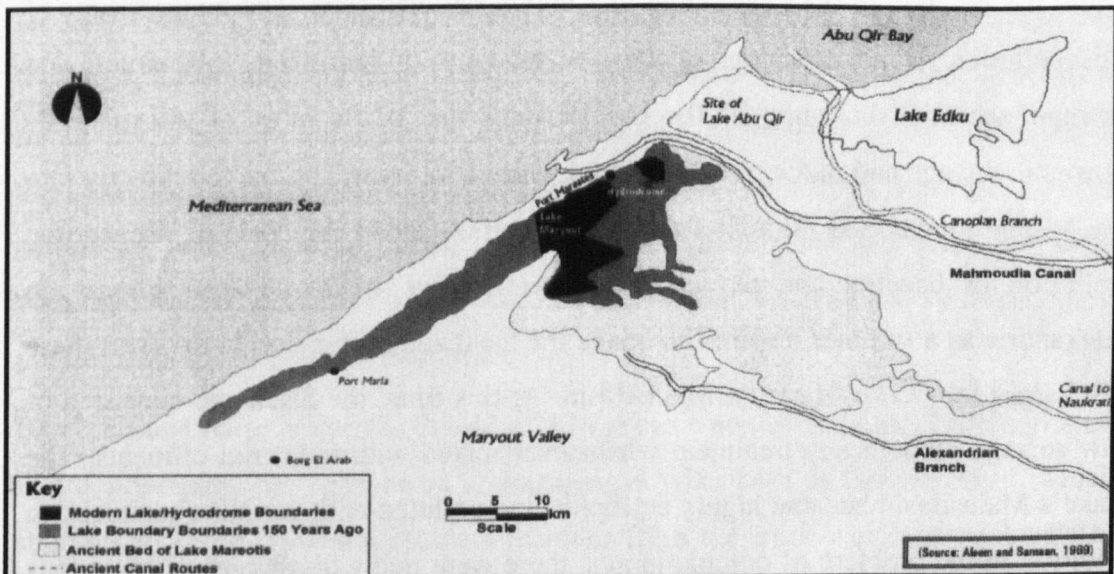


Figure 7-2 The old and current area of Lake Maryut

Source: (Fishar 2008)

The Lake is now divided artificially by the construction of roads and railways into four main basins. Figure 7-3 shows Lake Maryut and its four basins, namely, Main

Basin (2,520 acres), South West Basin (2,100 acres), North West Basin (1,260 acres) and Fisheries Basin (420 acres) (Fisher 2008).

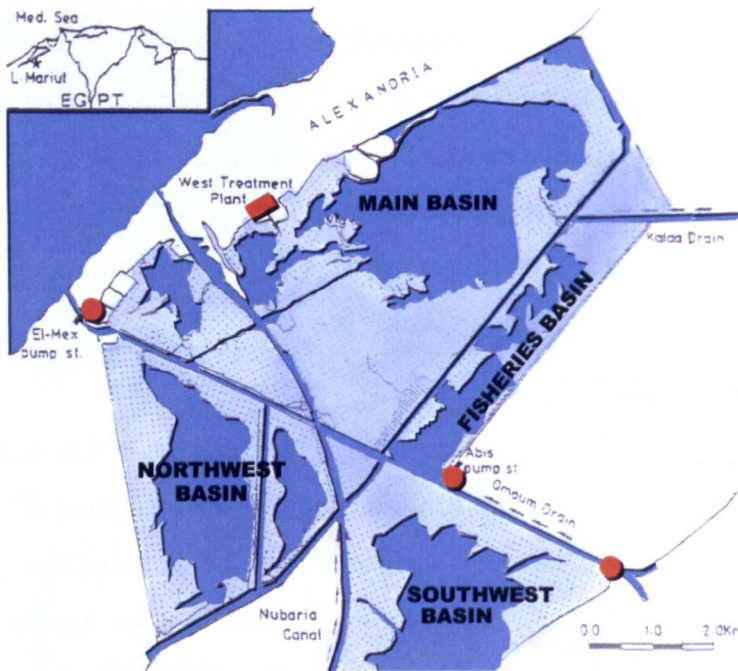


Figure 7-3 Lake Mariout and its basins

Source: (ALAMIM Team 2008)

During the last four decades, the Lake has been abused and severely misused. This abuse has resulted in the Lake being in a highly polluted state. The major source of this pollution is the discharge of massive amounts of industrial, agricultural and sewage wastes (AbuZahra 2000). In fact until the 1980s most of Alexandria's domestic sewage and much of its industrial waste water were discharged directly into the Mediterranean Sea through a number of outfalls along the coast of Alexandria. Pollution of beaches and the inshore waters had a severe negative impact on Alexandria as a summer resort. This made the local authorities decide to divert these discharges into Lake Maryut's Main Basin. At this time, the discharge consisted of raw sewage without any treatment whatsoever mixed with industrial effluents. The Lake's Main Basin became highly eutrophic and polluted with various chemicals. In addition to the problem of organic inputs, there were many discharges of hazardous waste. More recently, two primary treatment plants were built and started operation in the 1990s. The sewage water passes through screens then sedimentation tanks and finally a dewatering facility to remove the sludge. However, some untreated waste water is still being dumped directly into the Lake (Helmy 2007).

Furthermore, the Lake Maryut basins are recharged with drainage water from agriculture via a number of drains, the most important of which are the Omom Drain, Nubaryia Drain, West Nubaryia Drain and Al-Qalaa Drain. These drains carry agricultural drainage water from the irrigation of an area of approximately 450,000 acres of cultivated lands located south of Alexandria. This water contains high concentrations of chemical fertilizers and pesticides (Kafafi 2007).

To sum up, the Lake Maryut basins receive discharges, e.g. domestic, agricultural and industrial. As a result, water quality in the Lake has severely deteriorated, and the Lake has become highly eutrophic. The economic value of the Lake as a commercial fishing area has declined and its productivity has decreased by about 75% during the last 20 years (Helmy 2007). Moreover, the excess water in the Lake is pumped into the sea by the Al-Max Pumping Station, causing serious deterioration to the status of the Mediterranean (ALAMIM Team 2008).

Lake Maryut has a strategic importance both regionally and locally. It plays an important role in the water balance in the Egyptian Delta region. Without it and without direct drainage to the sea, the level of water would continue to rise, which would eventually flood wide areas of the region. In addition, due to the scarcity of land for new development in and around Alexandria, Lake Maryut area and its valley are now viewed as prime land for urban expansion (Kafafi 2007). In that respect, one of the most threatening problems facing the management of Lake Maryut arises from the conflicts between the different entities and decision makers on the utilization of the Lake and its surrounds. This has led to contradictory actions from the different authorities being imposed.<sup>25</sup> Due to this conflict of interests and non-compliance with the laws and regulations, the Lake has deteriorated and reached its threshold of pollution and misuse (CEDARE 2008b).

Based around these concerns, the ALAMIM project was established. Building upon ICZM principles, the importance of engaging a wide base of 'stakeholders' which attempts to bring these stakeholders together from the local and national levels to inform, support and implement an integrated management action plan for the lake was priority (Parpal 2006). It is the project to which the research now turns.

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<sup>25</sup> Further details regarding the absence of a clear institutional framework for managing the coastal zone in section (8-3-2)

## ALAMIM context

Despite evidence supporting the view that preserving Lake Maryut, and its valley, achieves the natural environmental equilibrium for the north-west area of the Delta, where six million persons reside, stakeholders have not yet agreed on the best scenario to achieve this. The stakeholders can be broadly divided into two groups. The first group believes in the necessity of drying up the Lake, while the second group calls for an immediate halt to all drying processes, restoration of the water body and moving towards an integrated and comprehensive development of the area (Helmy 2007). Taking into consideration its special characteristics, including the debate around the best scenario for developing this area, it was agreed that the project should concentrate on the Lake Maryut basins and their surrounding areas. Figure 7-4 shows the project study area.



Figure 7-4 ALAMIM project study area

Source: (El-Refaie & Ragué 2009; Google 2010)

The ALAMIM project was one of eight projects in the Mediterranean started in June 2006. It took 36 months to finish (SMAP 2009). The project was financed by the SMAP III. The total budget for the project was €779,405, including a €598,905 grant from the SMAP III and the rest provided in kind by the Egyptian partners (SMAP 2008a). Within this context, the ALAMIM project aimed to promote sounder and more sustainable development of the coastal zone of Alexandria through the promotion of integrated management of Lake Maryut Zone, and through the adoption of a sound participatory integrated management action plan for this zone. The project targets the Alexandria Governorate, the Regional Bureau of the EEAA (RBO), relevant local and national authorities, industries, local communities and NGOs, private sector, investors and visitors. The key actions included:

- assisting in the development of a sound integrated management action plan for this zone encompassing environment protection, economic development and the needs and interests of all stakeholders;
- the development and institutionalization of Lake Maryut Management and Monitoring Units as part of the Alexandria Governorate and the regional bureau of the EEAA;
- human resources capacity building in local and national institutions;
- building public awareness and encouraging stakeholder participation (Akrouk 2007).

The implementation of this initiative was carried out by a consortium of national, local and European partners. The consortium included, Barcelona Metropolitan Entity for Solid Waste and Hydraulic Services acting as General Secretariat of (MEDCITIES) network, the Center for Environment and Development for the Arab Region and Europe (CEDARE), Alexandria Governorate, the Egyptian National Authority for Remote Sensing and Space Sciences (NARSS), Marseilles Municipality, Ministry of Environment of Catalonia Local Government, the Coastal Union (EUCC) and UNESCO IHE-Delft in Holland. To be more specific European partners were especially active in this project through training missions held in Europe and technical meetings in Alexandria (Akrouk 2007).

To achieve the previously stated objectives, the project partners executed many activities including:

- a stock-taking analysis;
- developing evaluation models for the sustainable development of coastal zones, including performance indicators and GIS tools;
- multi-phased participatory process for the preparation of an integrated development plan for Lake Maryut;
- workshops, consultative meetings, seminars, training courses and study missions in EC cities;
- co-operation processes through agreements between relevant institutions;
- stakeholder participation and their involvement in the institutionalization of an integrated management and monitoring system;
- public awareness programmes; and
- institutional strengthening through creation of management and monitoring units in Alexandria Governorate and RBO (ALAMIM Team 2007).

### **Synopsis**

The unplanned urban growth that has continued unheeded for decades negatively impacts upon the environment, the lives of the local communities and the general economy of Alexandria. Most of the expansion has been industrial, and Lake Maryut has been treated as the backyard where all industrial, agricultural and urban waste water was disposed of, and ultimately pumped into the Mediterranean Sea. Further to this, there have been conflicts between the different entities and decision makers on the utilization of the Lake. The ALAMIM project worked on identifying stakeholders and strengthening the capacities and institutional aspects of the Alexandria Governorate to assume the leading role in the rehabilitation and sustainable management of the Lake, and at the same time strengthening the RBO to play a more vital role in coastal management and protection (SMAP 2008a).

### **7-2-2 Plan of action for an ICZM in the area of Port Said**

This project, like the ALAMIM project, is one of eight projects in the Mediterranean financed by the European Commission's Short and Medium Term Environmental Action Programme (SMAP III). The project aims to promote sounder and more sustainable development of the coastal zone around Port Said through the promotion of integrated management, and the adoption of a sound participatory integrated development action plan. The plan should encompass environment protection, economic development and the needs and interests of all stakeholders (SMAP 2008b). In fact, the project attempts to prepare an ICZM plan for the area of Port Said (north-eastern Nile Delta) and to define technical and methodological lines for its concrete implementation and possible extension and replication in other areas within the Egyptian Mediterranean coast (SMAP 2008b).

Before discussing the nature of the project, the characteristics of the project area need to be understood.

#### **Port Said Governorate**

The project area contains most of the Port Said Governorate and small portions of the Sharkia and Dakahlia Governorates. Figure 7-5 highlights where Port Said project area is located within this region. The physical pattern of the Port Said Governorate includes three main separate parts, Port Said city, Port Fouad town and the rest of the Port Fouad district. Port Said city is separated from Port Fouad town and district, which are not part of the project, by the Suez Canal (El-Bastawisy, Helmy & Ali 2006).

The total population in the Port Said Governorate in 2004 was 538,000, which was increasing at a rate of 1.5% per year (Tahoun 2007). Port Said is characterized by a long shore extending along the Mediterranean and Suez Canal waterway. The total length of the shore of the Port Said Governorate is about 59 km, extending from the west shore of Port Said city to the east shore of Port Fouad town (GOPP 2008).



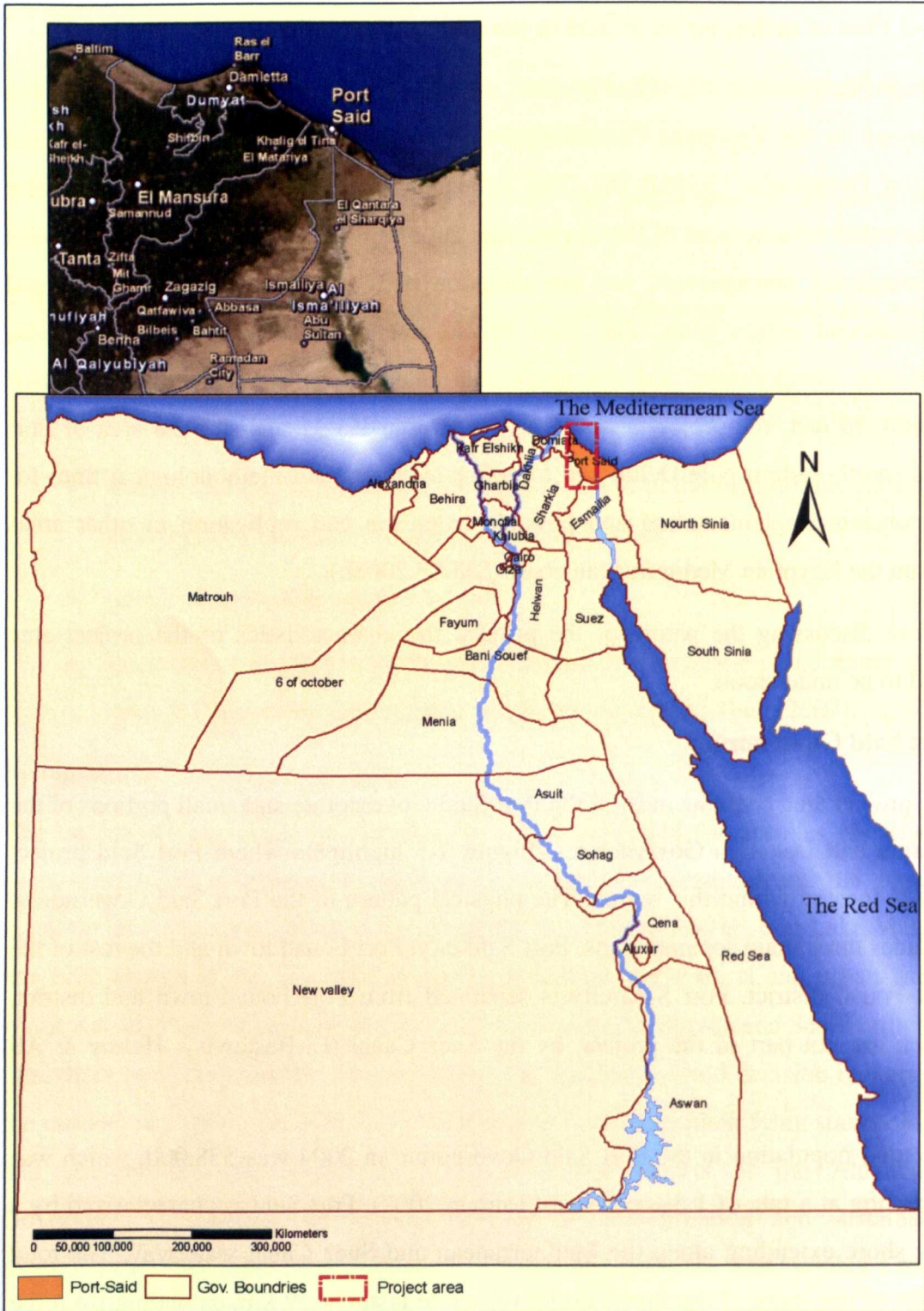


Figure 7-5 The Port Said project area location

Source: (Google 2010; IDSC 2008; SMAP 2006)

Port Said is one of the important harbours in Egypt for exporting and importing many goods, and a refuelling point for ships passing through the Suez Canal. Furthermore, the Port Said area has 76% of Egypt’s natural gas reserves. Moreover, it is characterized as having tourism potential, both locally and regionally, by nature

of its unique resources such as natural, historical, cultural, recreational, etc. (El-Bastawisy, Helmy & Ali 2006).

The main economic activity in the area throughout the last three decades was primarily trade which has also benefited from the free zone designation. However, since 1998, trade has started to shrink after the a presidential decree limited the free zone opportunities in the Port Said area for industrial enterprises, due to investors' growing interest in setting up industrial enterprises in the zone, especially after its inclusion in the Qualifying Industrial Zones (QIZ) agreement<sup>26</sup>.

Based around this situation, Port Said has been subjected to drastic economic changes due to the recent legislation that will abolish its status as a free zone with a main role in the transit trade in the whole country. A few industries might persist, but most economic activities that were based in the past on trade will deteriorate seriously. This will have a deep effect on the population in the area who have been used to working in import and export industries (El-Bastawisy, Helmy & Ali 2006).

In part because of this restructuring, the Port Said project was initiated with the intention of preparing a more sustainable development plan for the area. The main idea was to develop the methodological procedures for implementation which could then be applied as a model elsewhere (Tahoun et al. 2007a).

### **The Port Said project context**

The ICZM project of Port Said, was carried out under the umbrella of the SMAP III programme (SMAP 2008b). The project was jointly implemented by two Egyptian partners, the Centre for GIS Studies and Services (CGISSS) of the University of El-Zagazig, and the Irrigation Advisory Service (IAS) of the Ministry of Water Resources and Irrigation. In addition, there were two international partners, namely, the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM-IAMB) of Bari in Italy and the Nucleo di Ricerca sulla Desertificazione (NRD) of the University of Sassari in Italy. Most of the resources funding the project were provided by the European Commission under the supervision of SMAP III (Tahoun 2007). The project's total budget was around 1.8 million Euros which includes 80% grant from the SMAP III and the rest provided in kind by the Egyptian partners.

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<sup>26</sup> QIZ agreement signed in 2004 allows Egypt to gain non-reciprocal, duty-free access to U.S. markets for products containing at least 11.7 percent Egyptian and 11.7 percent Israeli components.

The study area is bound by the Mediterranean Sea to the north, Suez Canal to the east, Salam Canal to the south, and Salam Canal and Lake Manzala to the west. The area is nearly surrounded by waterways (El-Kady & Elarabawy 2008). Figure 7-6 shows the Port Said ICZM project area. The project area is suffering intensive population pressure in the coastal areas. Land fertility is deteriorating progressively and productivity is hindered by combined technical and socio-economic factors. Moreover, urbanization and desertification has lead to a dramatic loss of arable lands. Salt is one of the most prominent pollutants resulting from irrigated agriculture. It accumulates in the soil or is transported as drainage water into the lakes in the north of Egypt to the Mediterranean Sea, which are considered as major sources of land-based pollution of the Mediterranean Sea (IAS 2008). Furthermore, the area faces extensive coastal erosion and an absence of any integrated policies for coastal protection and development (Abdel-Kader & Yacoub 2008).

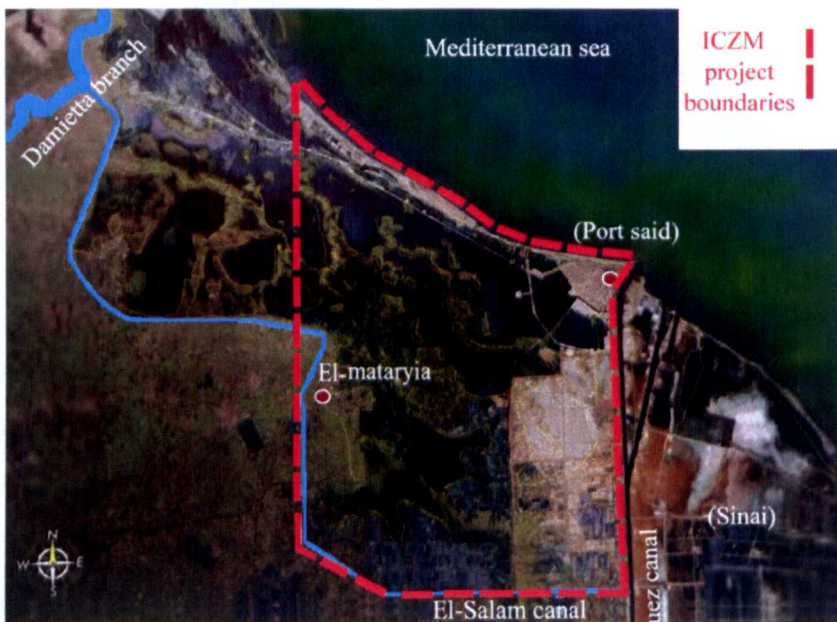


Figure 7-6 Port Said project area

Source: (SMAP 2006)

Within this background, the project aimed to prepare an Integrated Coastal Zone Management Plan for the area of Port Said. To achieve this aim, the project has three specific objectives:

- To create a knowledge base on the state of natural resources and the socio-economic system as well as providing an analysis of the problems, gaps, constraints and opportunities to identify possible protection policies;

- To promote methods and techniques of sustainable management of natural resources and to test their social and economic feasibility/acceptability;
- To produce an ICZM plan for Port Said through stakeholder participation, which in addition provide a set of implementation indicators (IAS 2008; SMAP 2006, 2008b; Tahoun 2007)

To achieve these stated objectives, the project partners executed many activities.

### **Project activities**

The project started in January 2006 and took 40 months to complete (SMAP 2006, 2008b). It comprised five activities

- An evaluating of the socio-economic and legal/institutional specific context in the project area through an intersectoral and participatory approach.
- Defining and assessing the general state of the environment;
- Assessing and monitoring the state and the management of land, water and fisheries resources, through the collection of specific qualitative and quantitative information. This included carrying out direct field surveys, applying GIS and remote sensing technologies for multi-temporal analysis, identifying the factors of degradation and proposing mitigation action, a planning solution and sustainable management methods;
- Demonstrating in representative pilot areas the effectiveness of a sustainable management system of water, land and fishery resources through the implementation of participatory pilot actions;
- Developing the skills and capacity of local communities (IAS 2008; Tahoun 2007).

### **Synopsis**

The project area is suffering intensive pressure in the coastal areas. Land fertility is deteriorating progressively. Productivity is hindered by combined technical and socio-economic factors. Urbanization and desertification are leading to dramatic loss of arable lands. Salt is one of the most prominent pollutants resulting from irrigated agriculture. Salt accumulates in the soil and is transported by the drainage water into

the northern lakes which are considered as major sources of land-based pollution of the Mediterranean Sea (IAS 2008).

The project area is of primary concern to Egypt from economic, social, political and demographic viewpoints. To boost and prolong the Port Said area development is one of the long-term government priorities. Within this concern, the ICZM project in Port Said aimed to prepare an ICZM plan for the area of Port Said and create the basis for its successive concrete implementation through an integrated and interdisciplinary approach.

### **7-2-3 Matrouh-El Sallum Integrated Coastal Zone Management project**

The Egyptian Government is trying to economically and demographically develop the stretch of coast between the cities of Matrouh and El Sallum on the Mediterranean coast, which is part of the Matrouh Governorate<sup>27</sup>, while at the same time maintaining the sustainable use of its natural resources, and the protection of its cultural heritage. The institutions responsible for this development are aware that the design of an Integrated Coastal Zone Management Plan is the starting point to define and promote the economic activities that are compatible with the carrying capacity of the system. The project is one of the activities taken up by the EEAA in collaboration with the Environmental Hydraulics Institute of the University of Cantabria in Spain (IH Cantabria) within the framework of international cooperation programmes for the promotion of ICZM (IH Cantabria 2007).

This section presents the Matrouh-El Sallum Integrated Coastal Zone Management (MSICZM) project, by giving details of the project, including: the importance of the project, its context, and the project activities.

#### **The MSICZM project context**

The project was started in 2006, funded by the Spanish Agency for International Cooperation, Ministry for Foreign Affairs. However, once the grant has been used up the local authorities are expected to support the project (IH Cantabria 2007). Figure 7-7 shows the MSICZMP area.

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<sup>27</sup> More details about the Matrouh Governorate, within its jurisdiction the project took place, are in section (6-2-2)

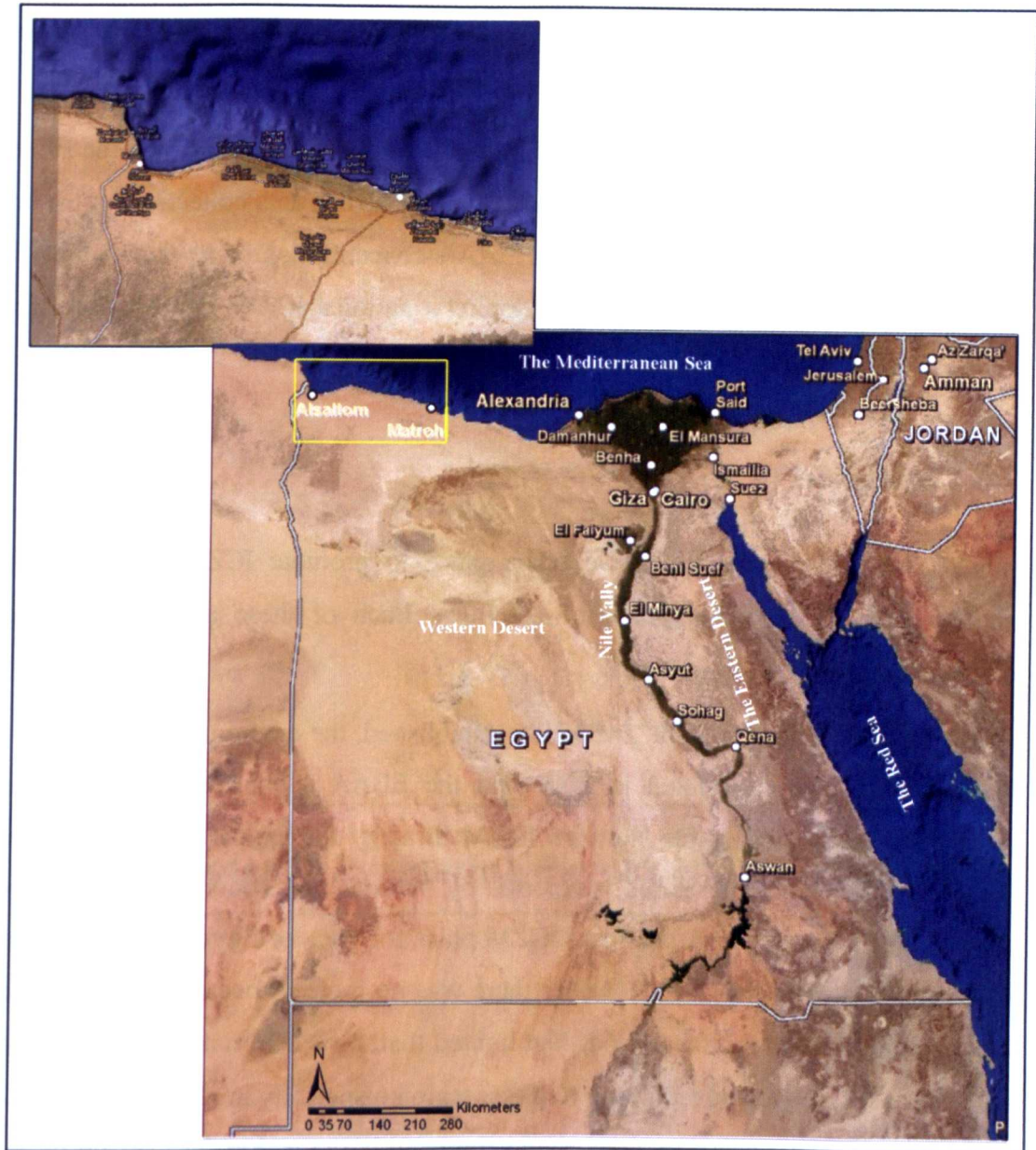


Figure 7-7 The MSICZMP project area

Source: (Google 2010; IH Cantabria 2007)

The strategic objective of the project was to set the basis, standards, tools and instruments necessary for the definition and implementation of an ICZM plan in the coastal area between Matrouh and El Sallum with the following specific objectives (IH Cantabria 2007):

- Identification of coastal resources and of the management framework through the collection, elaboration and organization of the data and information necessary for the diagnosis of the studied coastal area from an environmental, economic and social point of view.

- Planning and evaluation of development scenarios, as well as the elaboration of potential strategies and guidelines for the future development of the area.

Although the project was started in 2006 through a collaboration between the EEAA and IH/UC, the project was stopped after its first phase of data collection, at the end of 2007, due to lack of funding and the EEAA's concentration on re-establishing the National Committee for ICZM and developing a national ICZM strategy (Interview No.18 2009; Interview No.27 2009).

### **7-3 Conclusion**

Since 2005 several attempts have taken place to promote ICZM which can be characterized as a second phase of activities. Each of these attempts has been described in the previous sections.

At the national level the NCICZM was re-established, the environmental regulations (Law 4/1994) were amended in 2009 and the EEAA supported by international donors started to prepare the National ICZM Strategy for Egypt. Furthermore three local projects have been started, supported by international donors. The purpose of these projects was to formulate local ICZM plans for parts of Egypt's Mediterranean coast under intense pressure. However there was no project concerned with the Red Sea, although EEAA (2005, 2006a) highlighted that, by 2005, more than 30% of the reefs were severely damaged in the Red Sea region (especially in Hurghada) and this was having a severe effect on tourism development in the region. The reason for this is that there were no funds available to prepare such a project as all the ICZM initiatives in Egypt were and still depend on international donors who have other priorities and agendas (Interview No.5 2007; Interview No.16 2009).

The research now turns to a critical evaluation of Egypt ICZM initiatives at both national and local levels.

## **Chapter 8: Evaluating Egypt's ICZM initiatives**



## **8- Evaluating Egypt's ICZM initiatives**

This chapter is designed to answer these questions:

- How do Egypt's first and second phases of ICZM policy and practice compare with the conceptual framework?
- Does Egypt's second phase ICZM policy and practice recognize the lessons from previous initiatives?
- What are the potentials and constraints in applying ICZM in Egypt?

The research pursues these questions by focusing on evaluating the ICZM initiatives against the conceptual framework based around the seven factors (identified in chapter 3) which affect ICZM effectiveness. The objectives are to assess progress, trends and challenges so that potentials and constraints can be extracted. Then, these potentials and constraints will be used in the next chapter to develop a practical approach.

Thus, this chapter is divided into two main parts. The first part examines the ICZM initiatives against the conceptual framework and clarifies whether Egypt's second phase ICZM policy and practices recognized the lessons from previous initiatives (sections 8-1 to 8-7). The second part teases out the potentials and constraints for future implementation of ICZM (section 8-8).

### **8-1 Approach for dealing with ICZM**

The extent of involvement of governments and local groups in providing the initial leadership for ICZM differs widely among nations (Brachya et al. 1994). In this section, the major direction in which ICZM is continuously formulated and re-formulated will be illustrated and examined. To be more specific, the work in this section is based on answering this question: Which approaches have been used to initiate and promote ICZM initiatives?

In Egypt, ICZM activities and coordination efforts were initiated by central government (EEAA), and are therefore primarily to be regarded as a top-down approach to ICZM (Borhan, Farouk & Hamdy 2003). Indeed, all ICZM first phase

initiatives in Egypt were based on a top-down approach, starting from setting up the coastal zone management committee which was at the national level only with no forums or committees at the local level, through to the preparation of the national ICZM framework without having any previous local policies, and finally executing two pilot projects without any real participation from local stakeholders (Abul-Azm, Abdel-Gelil & Trumbic 2003; EEAA 1996b; World Bank 2002, 2005a).

For instance, the EEAA set up the National Committee for ICZM (NCICZM), this committee formulated the national ICZM framework before executing any local coastal management initiatives (Fawzi & Abul-Azm 1996). Although the EEAA, working with two international donors, jointly organized a coastal zone management workshop in Hurghada in 1995, the aim of this workshop was not to gain a local vision of coastal management initiatives. Rather, the aims of this workshop were twofold: to encourage the creation of a cooperating group of scientists and officials in Egypt as the backbone for planning and implementation of national Egyptian ICZM and to prepare for the production of a coherent ICZM framework (Abul-Azm, Abdel-Gelil & Trumbic 2003). Thus, these initiatives were based on a top-down approach.

At the local level, the Fuka-Matrouh Coastal Area Management Programme (CAMP) activities and coordination efforts were initiated, in 1993, by the central government through the EEAA. It signed an agreement with the international donor to implement ICZM in Fuka-Matrouh. Such an agreement, in addition to any lack of participation by local stakeholders, caused the project to become more top-down in its operation as the project strove to achieve the objectives set for it by external players, rather than by internal needs (PAP 2005).<sup>28</sup> To be more specific, one interviewee recognized that *“initiating CAMP activities by the central government, that is the EEAA, using a top-down approach excluded the local authorities from participating in the project”* (Interview No.1 2007). Moreover, many of the interviewees remarked that the CAMP project was prepared by the central government without any consideration of local needs, which led to the failure of its implementation (Interview No.21 2009; Interview No.29 2009; Interview No.42 2009; Interview No.43 2009).

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<sup>28</sup> More details relating to the lack of local stakeholder participation and its impact on the project can be found in sections (8-5 and 8-6)

Similarly, the Egyptian Central Government requested funds from the Global Environment Facility (GEF) in 1994 to initiate and develop the Red Sea Coastal and Marine Resource Management Project (RSCMRM). However, once the resource was secured the project was afterwards managed using a combination of top-down and bottom-up approaches, thus increasing the vertical integration and involvement of the users (World Bank 2002). For instance, one of the interviewees who participated in RSCMRMP said that *“the RSCMRMP project started as a request from central government, which gives the impression that the project was taking a top-down approach. However, creating an office in Hurghada enabled the project team to establish good communications with the local level authorities and helped them to reflect, to some extent, the local authorities needs in the proposed plan”* (Interview No.14 2007).

Again, like the first phase initiatives, most of the ICZM second phase initiatives were based on a top-down approach, including re-establishing the coastal management committee at the national level whilst having no fora or committees at the local level. In addition, Egypt has started to prepare its national ICZM strategy without having any local vision or consideration of local ICZM projects. Furthermore, three uncoordinated ICZM projects on the Mediterranean coast sponsored by foreign aid have been implemented at the local level in Alexandria, Port Said and between Matrouh and El Sallum (EEAA 2009c; El-Alfy 2008; Ibrahim 2009). Although it seems from these local ICZM projects (which started from 2006) and were then followed by the preparation of the national ICZM strategy (which started in 2008) that Egypt in this phase used a bottom-up approach, this seems not to have been the case for two reasons. First, two of these three local projects (ALAMIM and Port Said projects) were completed three months after the last workshop for preparing the national strategy and the last project (Matrouh and El Sallum) was stopped after its first phase of data collection at the end of 2007 (AbdelWahab 2009; EEAA 2009b; El-Refaie & Ragué 2009; IH Cantabria 2007). This means that none of these three projects have fed into the preparation of the national strategy (EEAA 2009b). Second, by reviewing the documentary data of the local projects and the national ICZM strategy workshops, there is no evidence that the central government worked to utilize the national strategy as an umbrella over such programmes nor address

issues that had arisen from these local initiatives in the preparation of this strategy (AbdelWahab 2009; EEAA 2009a, 2009b, 2009c; El-Refaie & Ragué 2009).

To be more specific, the EEAA, as the focal actor in ICZM in Egypt, requested assistance from the PAP/RAC to prepare the National ICZM Strategy for Egypt (EEAA 2009c). Again, this initiative started from central government using a top-down approach. In other words, the preparation for the strategy, through the holding of three workshops, was started at the national level without considering any local policies related to the coastal management or at least without any previous workshops at the local level to identify the local issues and priorities (EEAA 2009a, 2009b, 2009c). In this regard, one of the interviewees argued that *“The proposed national strategy is a guideline for any future coastal management initiative. However it is not a reflection of the local coastal practice”* (Interview No.33 2009). In the same way another interviewee suggested that *“The national strategy is a very broad vision of the situation in 50 years”* (Interview No.36 2009). Furthermore another interviewee, reflecting the views of several others, emphasized that *“Egypt started to prepare its second national strategy without taking into consideration local level priorities. In fact, coastal management activities in Egypt are still initiated and processed by using a top-down approach”* (Interview No.41 2009).

Furthermore, most of the local ICZM projects were initiated and managed by central government. For example, the Port Said project was initiated and managed by two central Egyptian partners, IAS in Cairo and the University of El-Zagazig, as well as two international partners, but without any participation from local stakeholders most notably the Port Said Governorate (IAS 2008; SMAP 2006, 2008b). In this regard one of the interviewee claimed that *“the project was initiated by two Egyptian partners who are not from the Port Said governorate and without any consideration or participation from the local authorities”* (Interview No.31 2009).

Similarly, it was the EEAA who requested funds from the Spanish Government to initiate and develop the MSICZM project without any participation from local stakeholders from the Matrouh Governorate (IH Cantabria 2007). In this regard one of the interviewee who is working in the Matrouh governorate argued that *“Yes we heard about the MSICZM project that it was initiated by the EEAA with international donor but we have not been involved in the project as it has been done in Cairo”*(Interview No.30 2009).

On the other hand, the ALAMIM was initiated and promoted through a combination of top-down and bottom-up approaches. In fact, in order to prepare the proposal for this project, MEDCITIES and CEDARE conducted a number of preparatory visits to Alexandria to meet with the high officials at the Governorate of Alexandria and the RBO in Alexandria in order to discuss the actual needs and requirements to be included in this project and get all of these stakeholders involved (CEDARE 2007; Marfà 2007, 2008). For instance one of the interviewees who is working in the Alexandria governorate added to this understanding, indicating that *“Both MEDCITIES and CEDARE, before starting the project, conducted several meetings with us in the governorate as well as with many other local stakeholders. The main objectives of these meetings were to discuss the Lake Maryut situation and to consider our future vision for managing the Lake”* (Interview No.9 2007).

Table 8-1 summarizes the main approaches used to initiate and promote the ICZM initiatives in both phases.

Table 8-1: The approach for dealing with the ICZM initiatives

Egypt's ICZM initiatives			Which approach has been used to initiate the ICZM initiatives?	Which approach has been used to promote the ICZM initiatives?
ICZM first phase initiatives	National Level	Setting up the National Committee for ICZM (NCICZM)	Top-down	Top down
		Preparing a national ICZM framework	Top-down	Top down
	Local Level	FUKA-Matrouh Coastal Area Management Programme (CAMP)	Top-down	Top down
		Red Sea Coastal and Marine Resource Management programme (RSCMRMP)	Top-down	Top down and Bottom up
ICZM second phase initiatives	National Level	Re-establishing the NCICZM	Top-down	Top down
		The new environmental regulations (Law 9/2009)	Top-down	N/A
		Preparing the National ICZM Strategy for Egypt	Top-down	Top down and Bottom-up
	Local Level	Alexandria Lake Maryut Integrated Management (ALAMIM)	Bottom-up and Top-down	Bottom-up and Top down
		Plan of action for an ICZM in the area of Port Said	Top-down	Top-down
		Integrated Coastal Zone Management between Matrouh and El Sallum (MSICZMP)	Top-down	Top down

Source: based on the Egyptian ICZM initiatives documents

It can be concluded from the examples of the ICZM first and second phase initiatives in Egypt that a top-down approach in coastal management initiatives rather than a bottom-up or balanced approach still predominates. This is despite the fact that it has been argued that the top-down approach is not appropriate for ICZM as it is an obstacle to setting up a sustainable ICZM process (see section 3-1). To be more specific, it has also been flagged by the World Bank and several international organizations that using a top-down approach in initiating and promoting the first phase ICZM initiatives in Egypt was not successful (PAP 2005; World Bank 2005a). However, it can be seen clearly that Egypt has not considered the lessons from the ICZM first phase initiatives regarding the approach used during the second phase to deal with ICZM.

## **8-2 Capacity development**

One of the most important factors that affect ICZM effectiveness is the capacity of the actors (Sonak, Pangam & Giriyan 2008). In this section, capacity development is discussed with regard to the capacity of all actors to plan and implement ICZM. In addition, the capacity of the focal actor, the EEAA, to accomplish its role is also considered.

One of the major challenges that faces Egypt in applying ICZM is the lack of institutional capacity of all actors, not only the focal actor, the EEAA (Agrawala et al. 2004; EEAA 2009c; Nawar & Kashef 2007). For instance, the EEAA was delegated by Law 4/94 and complementary acts to act as a focal actor in preparing and applying ICZM activities. However, the EEAA had limited or no institutional capacity to promote ICZM activities (El-Kady & Elarabawy 2008). Being more specific, the organizational and institutional structure of the EEAA includes a department for Coastal and Marine Zones Management affiliated to the Environmental Management Sector, yet there were only four persons in this department during the first phase of ICZM. Consequently, these four people were responsible for preparing and coordinating ICZM programmes across the whole coastal zone area of Egypt (Helmy 2007). Thus, Awad (2000) highlights that one of the major challenges that the EEAA faced was the lack of trained personnel needed to successfully implement ICZM initiatives. Furthermore, the World Bank (2002,

2005a) reported that the components of the ICZM projects were quite diverse, and their complexity was beyond the existing capabilities of the Egyptian implementing agencies, i.e. the EEAA. In the same way, Borhan, Farouk & Hamdy (2003) argued that the EEAA should be a lead agency for achieving greater coordination between all coastal zone stakeholders and driving coastal issues forward. However, it was not effective in its role due to the lack of trained staff.

Similarly, during the second phase of ICZM, the EEAA had little or no capacity to implement ICZM. To be more specific, the Coastal and Marine Zones Management department staff increased to only six persons during the second phase, four of whom at the same time work for another department, namely, the EIA department, which reviews all the EIA reports for the whole of Egypt (EEAA 2009c). In this regard, one interviewee remarked that *“the Coastal and Marine Zones Management department lacks the capacity to coordinate and implement ICZM. The department is understaffed and the available staff are busy with other work”* (Interview No.23 2009). Another interviewee commented that *“the Coastal and Marine Zones Management of the EEAA is still weak, the Department is understaffed and mandates are not clear”* (Interview No.17 2009). Furthermore, it was noted by another interviewee that *“The staff in the Coastal and Marine Zones Management department do not concentrate on their work related to coastal management. For example, the Head of the Department is at the same time the head of the EIA department. How do you think they can improve or at least coordinate coastal management in Egypt like this?”* (Interview No.41 2009). Another interviewee clarified that *“with few and busy technical staff, it is impossible for the EEAA to carry out its role as a focal actor in coastal management”* (Interview No.22 2009).

Moreover, the local branches of the EEAA, EMUs and RBOs, have no dedicated personal to deal with the local coastal zone management issues (EEAA 2009c; Kafafi 2007). In this regard one of the interviewees, who reflected the views of many others, emphasized that *“We understand the significance of the lead agency in ICZM and we know that the EEAA is the main actor in ICZM at the national level. However, it lacks the capacity to accomplish its role due to its shortage of trained staff. In addition, there is no coordinating body at the local level due to a lack of capacity in both the RBOs and EMUs”*(Interview No.16 2009).

In the light of the previous presentation it can be concluded that the EEAA and its local branches have and had little or no institutional capacity during either phases of the ICZM (Interview No.3 2007; Interview No.15 2009; Interview No.17 2009; Interview No.35 2009).

Similarly, the documentary data and the interviews also highlighted that other coastal management actors lack the capacity to promote ICZM activities. In particular, the participants in the first workshop for preparing the national ICZM strategy clarified that most of the institutions, especially in the coastal governorates, have no capacity to apply ICZM as there are no staff dedicated and specialized in coastal management (EEAA 2009c). In the same way, one of the interviewees who participated in most of the ICZM projects in Egypt claimed that *“Egyptian authorities and organizations, particularly those dealing with coastal management, lack the capacity to apply ICZM. So they need a lot of work to build their capacity before they can start to implement an effective ICZM”* (Interview No.22 2009). In this regard, Baijot, the deputy team leader of SMAP III in Cairo, (2007) also highlighted that the Egyptian institutions, especially at the local level, have no or very limited knowledge about ICZM. Likewise, one interviewee, who reflected the views of several others on this issue, commented that *“One of the major constraints of ICZM in Egypt is the lack of all actors capacity, at all levels, to orient and coordinate the development of the coastal zones, before we start considering the implementation of ICZM programmes”* (Interview No.5 2007).

Building on these concerns, there was a consensus between all the coastal stakeholders in the second workshop for preparing the national ICZM strategy, that there was a great need for more qualified staff in the field of ICZM to join all government institutions, including the EEAA, at national and local levels in order to implement a more sustainable ICZM process (EEAA 2009a, 2009c). Furthermore, it has also been acknowledged that there is a need for more training in ICZM, especially at the local level (EEAA 2009a, 2009b; ENPI 2007; Ezz 2005).

With reference to the institutional capacity of the focal actors and other actors to implement an effective ICZM process, another issue that should be acknowledged is the individual capacity of the various ICZM actors. By reviewing the ICZM initiatives documents and the interviewees' responses, one critical issue has been highlighted. This issue is the lack of qualified people in decision-making positions,



especially at the local level. In particular, most of these positions are occupied by retired military officers who are not experts or knowledgeable professionals with regard to issues in relating to ICZM or perhaps more fundamentally the broad concepts of sustainable development (Interview No.18 2009; Interview No.22 2009; Interview No.28 2009). In the same way, one of the interviewees emphasized that *“one of the major obstacles to achieving sustainable and integrated coastal management is the lack of skilled people in decision-making positions”* (Interview No.31 2009). For example, by reviewing the list of participants in the three workshops for preparing the national ICZM strategy, most of the participants, 25 out of 43, are retired military officers who occupied the positions of heads of EMUs or governor secretaries in the coastal governorates (EEAA 2009a, 2009b, 2009c). In this regard Nawar & Kashef (2007) assert that these decision makers affect the ability to implement ICZM by their lack of knowledge and capacity to undertake the task. Furthermore, one of the interviewees highlighted this fact by stating *“the staff who are working at the local level lack the capacity to deal with ICZM and the decision makers at the local level are not qualified. Most of them are retired military generals with no idea about sustainability and integration mechanisms”* (Interview No.38 2009). Thus, Bajot (2007) highlights that this situation has led to an increase in the difficulty in developing ICZM awareness at the decision-maker level, especially at the local level. Consequently Ibrahim (2009) highlights that in order to achieve a sustainable ICZM process, local governmental institutions, especially in relation to coastal management, should employ experts and knowledgeable professionals as decision makers.

Through the previous presentation of the evidence revealed from the documentary data and the interviewee responses, one main point has been clarified - that is, the focal actor and other actors lack the capacity to promote the ICZM activities. Whilst this issue was recognised in both phases this leads to the question about what has been done to develop the capacity of the focal actor and other actors in ICZM in Egypt?

The World Bank (2005a) reported that no training or any activity to build the capacity of the focal actor, EEAA, or any other actors was carried out during the first phase of Egyptian national ICZM initiatives. Table8-2 shows the ICZM initiatives in both phases and the policies or activities towards building the capacity.

Table8-2: ICZM initiatives and the capacity development

Egypt's ICZM initiatives			Does the focal actor have the capacity to initiate and coordinate the ICZM initiatives?	Do all the actors including the focal actor have the capacity to process ICZM?	What has been done to develop the capacity of the focal actor and other actors?
ICZM first phase initiatives	National Level	Setting up the National Committee for ICZM (NCICZM).	No	No	Nothing
		Preparing a national ICZM framework.	No	No	Nothing
	Local Level	Red Sea Coastal and Marine Resource Management programme (RSCMRMP).	No	No	New temporary staff were contracted for the project duration.
		FUKA-Matrouh Coastal Area Management Programme (CAMP).	No	No	Few courses for a limited number of personnel who were related to the IGSR team on the modern tools.
ICZM second phase initiatives	National Level	Re-establishing the NCICZM.	No	No	Nothing
		The new environmental regulations (Law 9/2009).	No	No	Nothing
		Preparing the National ICZM Strategy for Egypt.	No	No	Nothing
	Local Level	Alexandria Lake Maryut Integrated Management (ALAMIM).	Yes	No	Training and documenting of best practice.
		Plan of action for an ICZM in the area of Port Said.	No	No	New temporary staff for the project time.
		Integrated Coastal Zone Management between Matrouh and El Sallum (MSICZMP).	No	No	Nothing, as the project was stopped after its first phase of data collection at the end of 2007.

Source: based on the Egyptian ICZM initiatives documents and interviewees responses

Based on Table8-2 it can be clearly identified that the policy towards building the capacity in the first phase of the ICZM projects at the local level was not directed

towards building the capacity of the local stakeholders (El-Raey 1999a; World Bank 2002). For instance, the World Bank (2002) pointed out that the local partners of the RSCMRMP project, the Tourism Development Authority (TDA), the EEAA and the Red Sea Governorate, lacked capacity and had no, or very limited, knowledge about ICZM. This issue highlighted that the project was quite complex in terms of the range of activities to be undertaken and quite risky in its implementation arrangements based on the local partners' lack of capacity. Therefore, new staff who were contracted for the project duration were provided with training to enable them to carry out the project activities (Wilson, Meyer & Skeat 1998). However, this policy towards building the capacity of the project team was not an ideal way to develop the capacity of the local partners as the new staff, after preparing the project documents, left the project office and handed the process of implementing the proposed ICZM plan to the local partners' permanent staff who lacked the capacity to deal with ICZM issues (World Bank 2002).

In this regard, one of the interviews, reflecting the views of several others, claimed that *"after the new temporary staff accomplished their role and prepared the project documents they submitted these documents to the local partners who had no idea about the ICZM process"* (Interview No.5 2007). In the same way another interviewee acknowledged that *"after the RSCMRMP finished, we received the project documents and were asked to implement the proposed ICZM plan while we lacked the capacity to do so. We had not been offered any training in order to understand this process so we could not apply the proposed plan"* (Interview No.26 2009). To conclude, the RSCMRMP policy towards building the capacity was based on expediency, it depended on hiring new staff for a short period and improving their capacity in order to accomplish the specific project. It did not build the capacity of the local partners' permanent staff. This led to slowing down or a stopping of the ICZM process.

Another example was given by IH Cantabria (2007), illustrated through the CAMP Fuka-Matrouh project. One of the most serious problems of the project was the lack of capacity to deal with coastal management issues. In other words, there was a lack of specialized staff with knowledge and experience in coastal management at the local level (IH Cantabria 2007). In spite of this, only a few courses on using GIS were conducted for a limited number of personnel who were related to the Institute

of Graduate Studies and Research (IGSR) team (PAP 2005). For instance, one of the interviewees from the Matrouh Governorate noted that *“we have not attended any workshop or training courses through this project because we have not heard whether there were any for us”* (Interview No.43 2009). In this regard, Abul-Azm, Abdel-Gelil & Trumbic (2003) highlight that, although the local actors in the Matrouh Governorate lacked capacity and had very little or no experience in ICZM, no training was given to them.

With regard to the inadequate capacity development in the ICZM first phase initiatives, the need and the necessity to build the capacity in the field of ICZM in Egypt has been highlighted and stressed in many reports that have assessed both the Egyptian environmental management and the coastal management capacity (DAME 2004; El-Raey 2004; World Bank 2005a). However, the focal actor and other actors have not made adequate efforts to build this capacity either during phase one or more importantly in the second phase. For instance, many of the coastal governorate staff who attended the series of the national ICZM strategy workshops argued that they lacked awareness about ICZM and that it was a new field for them (EEAA 2009c). As a result, they argued that if they had taken a training course about ICZM before they attended these workshops they may have been able to participate more effectively and understand more about ICZM (Interview No.20 2009; Interview No.21 2009; Interview No.24 2009; Interview No.25 2009; Interview No.42 2009). In the same way, one of the NCICZM members who reflected the views of several members declared that *“we have no idea about ICZM and the EEAA should have arranged a training course for us before these workshops”* (Interview No.36 2009). Therefore one of the main recommendations that was emphasized at the second workshop for preparing the ICZM strategy was to prepare a plan or strategy and provide a fund from central government in order to develop the capacity of the NCICZM members and the staff of coastal governorates (EEAA 2009a).

At the local level, the second phase projects provided a mixed picture regarding the capacity development activities. For instance, the Port Said project was initiated by two Egyptian partners who had no previous experience in ICZM projects and no qualified personnel in the ICZM field (Tahoun 2007). In this regard, one of the consultants of the EEAA emphasized that *“the Port Said project has been granted to actors who have no experience in ICZM”* (Interview No.16 2009). Similarly, another

interviewee asserted that “*the Port Said project is the first experience of IAS and the University of El-Zagazig*” (Interview No.32 2009). This situation led the project partners to rely on hiring new staff for the project, who came on board over a short time to help in preparing the ICZM plan, and the international partners were asked to provide them with training to enable them to carry out the project activities (IAS 2008; SMAP 2008b). Again, this policy towards building the capacity of the project team was not an ideal way to develop the capacity of the local partners as the new staff, after preparing the project documents, handed the process of implementation of the proposed ICZM plan to local stakeholders at the Port Said governorate, who lacked the capacity to deal with ICZM. In this regard, one of the interviewees from the Port Said governorate argued that “*the project was the opportunity for us to know about integration and to learn how to deal with coastal management. However, we have not been involved in the project preparation and no training has been offered to us in order to develop our capacity to deal with coastal management issues*” (Interview No.15 2009).

On the other hand, the ALAMIM project concentrated on building the capacity for all stakeholders, including the local actors in the Alexandria Governorate, through training and documenting of best practice (CEDARE 2007, 2008a, 2008b). Marfà (2008) emphasizes that one of the main approaches used in building the capacities of local stakeholders was documenting best practices in lake management. This activity exposed them to examples of good practices in integrated lake management, which assisted in the identification of the most suitable scenarios for the future management of the Lake Maryut Zone. In addition to this, at least two training courses, in Marseilles and Barcelona, were conducted including field visits to lakes in the two cities as well as meetings with relevant experts. The aim of these courses was to provide participants with knowledge on the management and monitoring systems of the lakes in the two European cities and to build capacities for selecting the most suitable system(s) for the Lake Maryut Zone (ALAMIM Team 2007; Parpal 2006). Furthermore, two local training courses were delivered, a training course on the use of GIS and another on the use of the new sampling equipment (Marfà 2008). Reflecting on these efforts, one of the interviewees, from the Alexandria Governorate, who represented the views of several others, acknowledged that “*the project provided us with a great chance to understand ICZM and to learn how to*

*deal with coastal management issues, especially in relation to lake management. Indeed we gained a lot of knowledge and experience through the training courses and the presentations of best practice in integrated lake management”* (Interview No.35 2009).

Although the ALAMIM project can be considered as the best example in Egypt in building the capacity of the local actors, it is also clear that this happened without any strategic plan or standardized training programmes dealing with the national and local levels which would build the capacity of actors and enhance the implementation of ICZM in Egypt as a whole. In this regard, one of the interviewees noted that *“It is obviously emerging that there is no capacity in the coastal governorates to apply ICZM and we need to work on this issue in the future. However, we still have no plan or strategy up to now for building the capacity at national and local levels regarding ICZM”* (Interview No.40 2009). Another interviewee argued that *“Although there were a few individual short training courses through the ICZM local projects run by a variety of international donors, there was no cooperation and coordination in this field”* (Interview No.28 2009). It has been highlighted that there is no evidence that there is any effective training mechanism, in either phases of ICZM, that enables projects to produce and exchange training materials, personnel and experience (Borhan, Farouk & Hamdy 2003; EEAA 2009a). Equally, many of the interviewees commented on the methods of capacity building for the focal actor and other actors, as follows:

*“The training activities in relation to ICZM should be reviewed within an integrated policy based on actual needs and priorities”* (Interview No.5 2007).

*“Egypt suffers from a lack of accurate and effective data on existing capacities and manpower requirements at the national, regional and local levels. So we have not been able to build sufficient training programmes that satisfy our needs”* (Interview No.17 2009).

*“All of the training courses were delivered to meet ‘programme’ objectives, rather than meeting the needs of coastal stakeholders”* (Interview No.4 2007).

*“Standardized training programmes on national and local levels are required to cover ICZM issues (rules and regulations, monitoring activities, marine pollution*

*control technology, permitting and enforcement procedures) which will build the capacity of actors and enhance the implementation of ICZM” (Interview No.1 2007).*

*“Training in ICZM is not institutionalized either within training/academic institutions or in other national institutions” (Interview No.2 2007).*

*“Training opportunities have been limited and training courses may not be accessible to all target groups in need of acquiring skills and knowledge required for implementing ICZM activities” (Interview No.33 2009).*

To sum up, the focal actor and all other actors lack the capacity to apply a sustainable ICZM process. Furthermore, the methods used for building capacity in the field of ICZM in both phases were *ad hoc*, not structured, and lacked continuity. Furthermore, Egypt has not considered the lessons from the ICZM first phase initiatives regarding capacity development.

### **8-3 Institutional arrangements and legal framework**

The institutional arrangements and legal framework for ICZM are significant as their mechanisms and arrangements are crucial for governing coastal management, ensuring and facilitating its implementation, and establishing mechanisms for administrative coordination and dispute resolution (Sutherland & Nichols 2006). It is important that the legal and institutional structure does not create any overlaps, redundancy, conflict or grey areas (nobody’s business) for any selected activity within the coastal zone. This section discusses the legal framework and the institutional arrangements established to run the ICZM initiatives in Egypt. Thus, this section is divided into two subsections; the first considers the legal framework (subsection 8-3-1) and the second discusses the institutional arrangements (subsection 8-3-2).

#### **8-3-1 Legal framework**

Due to the comprehensiveness and complexity of the ICZM programmes structure, they need to be soundly equipped with a legislative basis and arrangements, particularly at the implementation stage (McKenna, Cooper & O’Hagan 2008). The work in this section is based on answering the following questions: Is the ICZM supported by an adequate legal framework or arrangement? Have the various laws

and regulations affecting the coastal area environment been harmonized? Are they enforced? Are there any mechanisms to update the legal framework in response to emerging issues?

In 1994, the Egyptian Parliament approved a Law for the Environment (4/1994). According to this law, the EEAA was appointed to coordinate the national coastal management activities (Sowers 2003). In spite of this indication in law (4/1994) regarding the national coastal management activities, the law did not provide any definition for the coastal zone or the ICZM. Furthermore, it also did not state anything in relation to the preparation of the local ICZM plans (Egypt 1994).

In 2009 the environmental legislation was amended by law (9/2009) in order to strengthen penalties for any violations related to pollution and to update the law in light of the relevant international conventions that have been ratified by Egypt (EEAA 2009d). These amendments also provided definitions for the 'coastal zone' and 'ICZM' as well as stressing the commitment to develop the National ICZM Strategy by the EEAA (Egypt 2009).

Reviewing law (9/2009), specifically the new articles in relation to coastal management, highlights some points regarding the inadequacy of the legal framework towards the ICZM implementation. Firstly, the new law stated that the ICZM is "*A dynamic and iterative process initiated, designed and implemented by a government to solve conflicts among different uses of coastal resources, including land-use plans and should promote sustainable development and uses of coastal resources*" (Egypt 2009). This definition ignores the role of the local community and NGOs in participating in developing and implementing ICZM as it assigns and limits all the endeavours of the ICZM to the government. In fact, this definition gives the sense that all the prospects for ICZM actions in Egypt will be initiated by the government and will be centralized.

Secondly, the law stated that each coastal governorate should delineate the coastal zone boundary within the governorate and prepare an ICZM plan without clarifying which actor in the governorate will be the responsible agency or the local coordinator in preparing this plan (Egypt 2009).

Finally, although the new law emphasizes that the EEAA should prepare the national ICZM strategy, it has not clarified how this strategy will be prepared and whether it



will be an umbrella for the local ICZM plans (based on a bottom-up approach) or simply a guide for the preparation of the proposed local ICZM plans (based on a top-down approach) (Egypt 2009).

In the light of the previous presentation it can be clarified that both Environmental Laws (4/1994 and 9/2009) have suffered from many gaps in relation to coastal management. Consequently it can be also highlighted that the mechanism to update the legal framework was not adequate as it took 15 years to update the law and clarify the definition of ICZM. However, it still has not covered the ICZM issues sufficiently.

Apart from these indications in both Environmental Laws (4/1994 and 9/2009) in relation to the coastal management, there is no separate act, in either phases of the ICZM, dealing only with the coastal zone issues (EEAA 2009b; World Bank 2007a). In other words, many other sector acts and regulations are in force in coastal areas covering a variety of activities: shipping, fisheries, general environment, conservation, transport and local government laws...etc. (El-Kady & Elarabawy 2008). To be more specific, there are a multitude of laws and there is no evidence that there is any framework legislation or mechanism for coordinating and harmonizing the implementation of such laws.

In this respect Borhan (2007) highlights that there are around 200 laws and decrees in existence which apply directly or indirectly to the coastal zones without any mechanism for coordination, which makes it difficult to identify which regulations have to be followed in which case. In this regard, one of the interviewees, who reflected the view of several others, suggested that *“Although the laws and executive regulations are issued after intensive discussions, consultations and deliberations, the interrelationships, connections and transactions among the applicable laws are being given less weight and subsequently this is leading to a conflicting (or at least) blurry situation during the course of enforcement”* (Interview No.19 2009). Furthermore, another one of the interviewees argued that *“Each of the authorities thinks that it has the upper hand in coastal management. The reasons for this are that each authority elaborates the laws as they understand them, not as they should be applied, Furthermore, there is no mechanism to harmonize the implementation of such laws”* (Interview No.2 2007). Moreover, many of those interviewed reported that the present legal tools are (to some extent) sufficient and can fulfil the needed

regulation, control and judgement. However, these are not applied in a coherent way due to the lack of coordination and consistency in implementing the various legal provisions (Interview No.1 2007; Interview No.5 2007; Interview No.8 2007; Interview No.11 2007; Interview No.13 2007; Interview No.14 2007; Interview No.41 2009).

In the same way, the World Bank (2005a) emphasizes that the regulations affecting the coastal area environment have not been harmonized. Furthermore the new law (9/2009) has not clarified any mechanism for tackling the contradiction between laws in the coastal zone (Ibrahim 2009). For example, the Environmental Law (4/1994) and the new one (9/2009) assigned the responsibility of protecting the environment and monitoring the discharges of various activities into the environment in general, and specifically into water bodies including lakes and seas, to the EEAA. while Law 48/1982, which is still enforce, assigns the role of controlling and monitoring the discharge of waste water into the River Nile and other water bodies, e.g. lakes, which in most cases pump or discharge their excess water into the sea (for example Lake Maryut – see 7-2-1), to the Ministry of Health and the Ministry of Water Resources and Irrigation (Egypt 1982, 2009). Hence, there is an overlap in mandates between the three authorities, and there is no evidence that there is any coordination mechanism between them. For instance one of the interviewees supported this assertion and gave an example that *“The major source of the Lake Maryut pollution is the discharge of massive amounts of industrial, agricultural and sewage wastes. The three authorities (the EEAA, the Ministry of Health and the Ministry of Water Resources and Irrigation) should protect the quality and monitor pollution in the lake, are not integrated and the legislation framework has not clarified any mechanism for coordination between them. Thus each of them depend on the other to control the pollution and the result is the Lake has deteriorated and reached its threshold of pollution and misuse”* (Interview No.20 2009).

Based on the previous presentation in relation to the various laws and regulations affecting the coastal area environment and their fragmentation, it can be argued that Egypt, in both phases of ICZM, have lacked a coordinating mechanism that harmonizes the implementation of laws.

Now the research will turn to answer the third question, which is related to the enforcement of the legal frameworks and arrangements. The World Bank (2005a)

highlights that the record in Egypt for implementing and enforcing environment-related laws has not been very successful. With limited exceptions, violations of environment-related laws went undetected. One interviewee suggested that *“almost all court orders against violating of environmental standards are never carried out”* (Interview No.1 2007). For example, Law 4/1994 includes a clear chapter firmly prohibiting violations in the coastal zones either by land filling works or changing the coastline. The penalties and sanctions are specified by the law for this action. However, a relaxation of law enforcement is common. Some of the violating cases are indemnified by a sum of L.E.10, 000 ( $\cong$ 1200 Euros). Many cases, if not the majority, are granted communal amnesty during periods of political pressure (parliamentarian elections). This systematic condoning triggers further illegitimate behaviour, thereby inviting others to break the law since the maximum fine is L.E.50,000 ( $\cong$  6,250 Euros) and is rarely applied (El-Kady & Elarabawy 2008). For instance one of the interviewees supported this claim and noted that *“There is a lack in enforcing coastal related laws. For example Lake Muryut has been abused by land filling works during the last decade however no penalties have been imposed against any of the violators”* (Interview No.28 2009).

Furthermore many interviewees reported on the lack of enforcement of the existing laws and regulations as the following quotes indicate:

*“There are many national laws and decrees existing in Egypt that directly or indirectly regulate coastal development or aim to protect the marine and coastal environment. However, it is worth declaring that the degrees of enforcement of these laws and compliance with their standards is very weak”* (Interview No.1 2007).

*“The existing legal suit [sic] is, to some extent, adequate. The laws cover all aspects of environmental protection and if proper enforcement takes place most of the violations would be diminished”* (Interview No.5 2007).

*“I am sorry to tell you that, in Egypt, regulations have no active enforcement, particularly in coastal zones”* (Interview No.4 2007).

*“Enforcement is essential to the success of ICZM in Egypt. However, proper enforcement has not taken place at all and no single institution can apply enforcement actions effectively”*(Interview No.27 2009).

*“The most important message is that Egyptian experience in compliance and enforcement of the laws related to the coastal issues has been limited and could be described as being non-supportive to the regulating system”* (Interview No.36 2009).

For instance, the Environmental Law (4/1994) and the new one (9/2009) as well as law (12/1984) stipulated that construction is prohibited within the 200m-broad shoreline zone on both the Mediterranean and Red Sea coasts unless there is permission given from the SPA in co-operation with EEAA. However, there is little enforcement of these laws and many buildings have been constructed near the shoreline without gaining any appropriate permission (METAP 2006). In this respect one of the interviewee gave an example that *“You can see here in the Alexandria governorate that there are many buildings such as the Military Club, the Engineering Club and the Physicians Club, which have all been built near the shoreline without any permission from the appropriate authorities”* (Interview No.39 2009).

As was pointed out *“Egyptian practice in relation to environmental laws enforcement has been very inadequate and when the law is enforced very weak penalties are applied on the violator”* (Interview No.2 2007). For example, although the Prime Minister’s Decree No. 1741 in 2005 stated clearly that EIA is mandatory for all new and modified projects (this includes all the projects to be established or extended in coastal zones) and gave the EEAA the right to approve or refuse any new or extension projects based on the EIA, many buildings have been built after 2005 in the coastal zone without submitting the EIA to the EEAA. Furthermore, in 90% of the cases that were taken to court and found in breach of the regulations, the fine imposed did not exceed L.E.1000 ( $\cong$ 120 Euros), which is the lowest minimum fine mandated by the Environmental Law (Helmy 2007; METAP 2006).

Another example of breaches to environmental regulation relates to, the fishing and fish farming activities which are clearly regulated by law (124/1983) and the Ministerial Decrees (303/1987 and 329/1985). However violations to the specified fishing methods or fishing locations are frequent due to the low chance of prosecution and the very low penalties imposed. The violator could be imprisoned (three to six months) or fined (L.E.100  $\cong$  12 Euros up to L.E.500  $\cong$  60 Euros) (El-Kady & Elarabawy 2008; METAP 2006). The sanctions are therefore trivial and do not provide sufficient incentive to the enforcement agencies to strictly apply the rules

nor a deterrent to the fishermen. In practice, following a successful prosecution the financial penalties are usually applied and the imprisonment term is rare. Furthermore, the lowest band of fines will be applied. Therefore, people know that the maximum fine(s) they will be liable for if caught and found guilty would be about L.E.100 ( $\cong$  12 Euros). Since the magnitude of these financial penalties is insignificant, especially compared to the benefits gained through violation, most violations have continued, been repeated or even up-scaled, thereby damaging natural resources (El-Kady & Elarabawy 2008; METAP 2006).

Moreover, with its tremendous backlog of cases and a lack of experience with complex environmental issues, the Egyptian legal system does not support timely and effective enforcement of the law (EEAA 2009b; World Bank 2005a). For example, from 2006, up to 2008, 500 environmental law violating incidents were taken to court, 400 of these cases are still pending (EEAA 2009d; El-Kady & Elarabawy 2008).

Another point highlighted by Ibrahim (2009) suggests that the challenge lies in the functioning and efficiency of environmental regulations and institutions. Governments are often pre-occupied with promoting economic growth and gaining foreign currency, especially in the case of developing countries such as Egypt, and this may be at the expense of the environment. When authoritative figures lay down restrictions to control land usage, there are other agendas that influence the content and implementation of regulations (Ibrahim 2009). For example, developers (investors) are given many economic incentives to invest in tourism development, especially in the Red Sea zone. However, they are requested by the environmental law to submit EIAs prior to the start of any construction activities. However because of weak enforcement the developer is likely to proceed with construction without submitting the EIA. From the developer's point of view, an EIA is just more papers to be submitted to the bureaucratic government authorities and the local government does not want to lose the investment by enforcing the law (Sherbiny, Sherif & Hassan 2006). For instance one of the interviewee from the Red Sea governorate noted that *"In most cases we asked the investor to submit EIA report before starting to construct any hotel or resort. However if he does not submit this report we will let him proceed with the construction. In fact we do not like to lose an investor who will create some jobs for our local people"* (Interview No.25 2009)

To conclude, Egypt has no separate legislation that covers only coastal zone issues. Furthermore, it is suffering from lack of a clear system of harmonization between laws, especially regarding coastal issues. Additionally, it is also suffering from inadequate enforcement of the environment-related laws. Nevertheless, although a new environmental law has been issued suggesting that lessons have been learnt, closer examination suggests that this is not the case. It has not developed any approach to coordinating the different laws and decrees affecting coastal management issues. In addition, the new law has also suffered from many gaps in relation to the implementation of ICZM.

### **8-3-2 Institutional arrangements**

One of the most prominent parts of the ICZM institutional framework concerns the minimum arrangements necessary for institutional coordination and clarification of roles and responsibilities (Boateng 2006; Borhan 2007). The work in this section discusses the institutional arrangements that have been set for coastal management and how the ICZM initiatives in both phases dealt with these arrangements. To be more specific it seeks to answer the following questions: Are there any specific institutional arrangements for ICZM? Do the institutional arrangements define clearly which actor is responsible for what? Are institutional arrangements becoming operational?

In Egypt there is no permanent and operationalized institutional arrangements for coordination between ministries on the one hand and between central government and local government on the other, in order to facilitate integrated management of coastal and sea resources in either phases of the ICZM (Borhan 2007; Borhan, Farouk & Hamdy 2003; EEAA 2009c; El-Kady & Elarabawy 2008; Helmy 2007). In particular, the EEAA is responsible for developing Egypt's sea and coastal zone policies, while different national ministries are responsible for their implementation. The Ministry of Health, the Ministry of Water Resources and Irrigation and the EEAA are the main controlling and monitoring agencies. The Shoreline Protection Authority is responsible for shoreline management and the Ministry of Transport is responsible for shipping. The Tourism Development Authority and the Fisheries Development Authority are among the main users of the coastal areas. Local government also has an important role in implementing coastal policies at the local

level. However, the coordination and integration among all of these actors is not sufficient and sometimes does not exist due to the fact that each actor has a different affiliation and there is no active institutional arrangement available for coordination. There is no effective committee or forum which could create the space where a dialogue between all these actors can occur (El-Kady & Elarabawy 2008; Helmy 2007).

Being more specific, in the mid of 1990s, the EEAA, as a focal actor with support from international donors and central government, created the NCICZM and was tasked with preparing the national ICZM framework. This should have been the pre-request arrangements for institutional coordination between concerned ministries necessary to achieve horizontal integration at the national level (EEAA 1996a). Furthermore, the mandate for the Committee had been set<sup>29</sup> (EEAA 1996a). In spite of this, the NCICZM has not physically practised its mandates (El-Ghorab 2005). According to the World Bank (2005a), the NCICZM has not been able to fulfil its intended function and has neither developed any accepted strategy nor resolved coastal conflicts. In fact, the NCICZM was not functional – it held fewer than 10 meetings between 1995 and 2001 and since then became inactive (Borhan, Farouk & Hamdy 2003). In this regard one of the interviewees suggested that *“Although the NCICZM was set-up in 1995 it was ineffective. It held a few meetings until 2001 without any effective contribution to the coastal management. Then it became idle”* (Interview No.16 2009).

In the ICZM second phase the EEAA as the focal actor in ICZM re-established the NCICZM, at the end of 2007, after a pause of almost 7 years. This was the first step in applying for funding from PAP/RAC to prepare the national strategy for ICZM in Egypt (Interview No.36 2009; Interview No.41 2009). Again, the national network contained almost all of the concerned ministries necessary to achieve horizontal integration between ministries (George 2007). Although the NCICZM was re-established in 2007 by Ministerial Decree stating that the committee should meet once every three months, it had only held one meeting from its setup in January 2009 when the EEAA had acquired the funding from the PAP/RAC to prepare the national strategy for ICZM in Egypt (Interview No.16 2009; Interview No.17 2009). In fact,

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<sup>29</sup> Further information about the NCICZM in section 6-1-1

this can give the impression that the committee has still not been able to fulfil its intended function and that it was just formed, like the previous one, to accomplish one mission, i.e. to prepare the national ICZM strategy, after which it would become inactive. Furthermore, there is no evidence that the NCICZM has had major regulatory and administrative powers or funding to actively promote ICZM issues (George 2007). For instance, one of the interviewees stressed that *“From the past initiatives and until now the NCICZM is a coordinating body at the national level without any power or funding to support ICZM”* (Interview No.23 2009). Moreover, there is no clear system about how this committee will prepare the national ICZM strategy and how this strategy will be implemented (EEAA 2009c). In this regard, one of the interviewees argued that *“although Article 5 of Law No. 9/2009 mandates the EEAA to coordinate with other authorities and ministries to develop an ICZM national strategy for coastal areas, there are no further details of how such coordination can be operationalized”* (Interview No.41 2009).

From the previous analysis, it is still clear that coastal management in Egypt is being carried out on a sectoral basis. The EEAA has the formal leadership according to the law. Nonetheless, no effective ICZM commission exists at national and local levels.

Institutional arrangements are required at different administrative levels (national, regional, local) for taking responsibility for ICZM. However, the absence of a clear institutional framework is not a problem specific to the national level. In fact, no permanent institutional arrangement exists for coordination between central government and local government and also between actors at the local level for facilitating integrated management of coastal and sea resources (EEAA 2009c). For example, Law (12/1984) stated that the SPA is responsible for shore protection and in this regard it is committed to develop any construction needed for this issue and it is responsible for delinating and managing the Set-back Zone<sup>30</sup> on both the Mediterranean and Red Sea coasts (Abd-Alah 1999). Consequently, the SPA applied its role but focusing only on construction of coastal protection structures including jetties, groynes, seawalls and breakwaters to combat beach erosion and reduce shoaling processes in the lagoons, and navigation channels in the Nile estuaries

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<sup>30</sup> The distance a structure must be from the edge of the water. In most cases it is the 200m broad shoreline zone.



(World Bank 2005a). At the same time there were two actors issuing construction licences in the coastal area, namely the local government and the TDA. However, there was no integration between those two actors – each one applied different rules when issuing construction licences for hotels and resorts (Interview No.3 2007; Interview No.44 2009; Interview No.45 2009; METAP 2006). In particular one of the interviewees gave more details about this issue that *“each one of the Red Sea governorate and the TDA applied different rules. For instance the Red Sea governorate issued construction licences within the Hurghada city boundary giving permission for construction 50 metres from the water line, while the TDA issued these licences in the same governorate to the resorts but outside the Hurghada city and gave permission for construction 200 metres from the water line”* (Interview No.34 2009). In 2002 the Prime Minister recognizing this issue, the lack of integration between the TDA and local government and the absence of a role for the SPA in delineating and managing the Set-back Zone, issued Decree No. 1250 clarifying that the SPA based on Law (12/1984) has the responsibility for delineating the Set-back Zone and issuing licences to land developers for any construction within the Set-back Zone on both the Mediterranean and Red Sea coasts. After this decree, the SPA started to delineate the Set-back Zone and issue licences for the use of coastal areas without coordination with other actors such as the TDA, and local governments. In this respect one of the interviewee noted that *“The SPA based on Prime Minister Decree No. 1250/2002 worked in isolation and issued many construction licences without coordinating with the other stakeholders”* (Interview No.27 2009). In December 2006, the TDA and the local governments as well as the EEAA claimed their role in the coastal area which led the Prime Minister to issue another Decree (No. 1599) establishing a Shore Protection High Committee for approving coastal development projects located in a Set-back Zone (Nazif 2006). According to this decree, the width of the Setback Zone and other conditions for developments should be defined by the High Committee and finally the Committee should issue the related licences to the investors. The Committee, which should meet on a monthly basis, has members from the EEAA, SPA, TDA and the relevant coastal governorates (Borhan 2007). From this example it is evident that there is an absence of a clear definition of responsibilities and coordination arrangements within the Egyptian coastal management and it takes years to clarify responsibilities and assign a role to each actor.

Furthermore El-Alfy (2008) argues that there are many institutions at the local level that are responsible for coastal management. However, each one of these institutions plays its role without coordinating with the others because there is no clear institutional framework for coordination. For example, from the current status of Lake Maryut which is classified as one of the most polluted hot spot in the Mediterranean Sea, it is clear that current coordination and integration among stakeholders is not sufficient. This mainly due to the fact that each stakeholder has a different affiliation and there is no clear institutional framework for coordination (El-Refaie & Ragué 2009; Helmy 2007; Kafafi 2007; Parpal 2006). In this regard one of the interviewees noted that *“The Alexandria Governorate is the owner of Lake Maryut, However it cannot manage the Lake because its organizational structure does not contain any entity to accomplish this role. Thus the General Authority for Fish Resources Development plays the role of the main actor for the Lake, although it should only be responsible for the development of the fish resources in the Lake. It claims that it owns the Lake and it sells parts of the area around it without any coordination with the governorate”* (Interview No.35 2009). Furthermore another interviewee argued that *“There is no clear institutional framework clarifying ownership and management responsibilities of Lake Maryut. There are at least three authorities regulating and controlling the sources of water pollution in the Lake. However they are not co-ordinated and the Lake is deteriorating”* (Interview No.39 2009). In fact the three stakeholders have the supervisory roles for the Lake are the EEAA, the Ministry of Health and the Ministry of Water Resources and Irrigation, (Helmy 2007). For instance the Ministry of Health should monitor the municipal and industrial effluents through sampling. The Ministry of Water Resources and Irrigation should regulate and control the sources of water pollution. The EEAA should check the rates and proportions required for the permissible limits of pollutants and define the violations (DAME 2004; EEAA 2006b; World Bank 2005a). In this regard one of the interviewees highlighted that *“each one of the three monitoring authorities is waiting for the others to take action against the violators. Consequently, the Lake has deteriorated and reached its threshold of pollution and misuse”* (Interview No.37 2009). In particular one of the interviewee supported this claim and gave more details that *“Lake Maryut suffering from contradictory actions from the different authorities. For example In the last five years the General Authority for Fish Resources Development spent millions of Egyptian pounds in*

*order to develop fishing industry in the Lake in the mean time the Alexandria Company for Sanitary and Drainage which is affiliated to the Ministry of Housing and Public Utilities discharges domestic sewage and much industrial waste water into the Lake. No one of the three monitoring authorities took action against the violator. As a result the Lake deteriorated and the money lost” (Interview No.28 2009).*

From the previous presentation, it can clearly be seen that there are many conflicts between the responsibilities of all levels and a vagueness of vision among the different governmental agencies that are supposed to be responsible for developing and managing the coastal zones. This is particularly predominant especially between the national and regional/local levels. In other words, coastal management in Egypt suffers from fragmentation of responsibilities (in both horizontal and vertical directions) (El-Kady & Elarabawy 2008). Furthermore, one of the interviewees commented that *“The existing institutional arrangements show [sic] clearly the sectoral character of the present system. It suffers from vagueness of responsibilities and insufficient co-operation among different state agencies on the one hand, and among central government and local government on the other” (Interview No.5 2007).* El-Ghorab (2005), in particular, highlights that with this degree of fragmentation it is not clear which agency is responsible for what. In this regard, SANÒ *et al.* (2008) highlight that in Egypt the fragmentation and lack of coordination between the administrations concerning coastal management should be considered as a consequence of the lack of a clear framework that defines the responsibilities of different entities. Furthermore, one interviewee noted that *“mapping of institutional arrangements and responsibilities is very shallow and not in-depth which has led to an overlap between responsibilities and conflicts between actors” (Interview No.1 2007).* In fact, one of the interviewees acknowledged that *“Who is responsible for what? This is a difficult question that needs to be answered” (Interview No.8 2007).* Similarly, another interviewee pointed out that *“Legal and administrative authorities need reliable measures and effective means of enforcement. In addition, tasks, priorities and responsibilities are not clear and we need to have a clear answer to this question ‘who is doing what?’” (Interview No.6 2007).*

Recognizing these issues in relation to the lack of clear and permanent institutional arrangements for coastal management in Egypt, the participants in the three workshops for preparing the national ICZM strategy agreed that Egypt is still suffering from a lack of any kind of national and local institutional arrangements to help achieve integration and coordination between coastal management stakeholders at all levels (EEAA 2009a, 2009b, 2009c). In this regard, one of the interviewees stressed that *“If we need to apply ICZM in Egypt, we need coordination bodies on all levels that are well-linked as a network. Otherwise all our efforts will be in vain”* (Interview No.27 2009). Furthermore, another interviewee argued that *“although Egypt has started to prepare its national ICZM strategy, all of these efforts will be in vain unless this strategy is supported by a clear system for managing the coastal zones including clear mandates and responsibilities”* (Interview No.40 2009). Similarly, another interviewee acknowledged that *“If we want to apply the national ICZM strategy, we need to combine it with a clear system for managing the coastal zones”* (Interview No.36 2009). It was also asserted by another interviewee that *“The national ICZM strategy is just a guideline and will be useless, like the national ICZM framework which was prepared in 1996 and has not been applied until now”* (Interview No.34 2009). Further to this, one of the interviewees emphasized that *“Although Egypt is one of the first countries in the MENA region to start to take steps towards applying ICZM, until now we have not seen any effective ICZM in Egypt. This is as a direct result of the absence of a clear structure for the institutional arrangements between coastal actors”* (Interview No.22 2009). This was supported by another interviewee, who declared that *“a great effort is now needed for making the roles and the responsibilities of coastal actors active and clear in addition to building relationships between actors”* (Interview No.8 2007). Likewise, one of the interviewees added *“Clearly, institutional arrangements are required at different administrative levels (national, regional, local) for taking responsibility for ICZM. In Egypt until now, the national level has been established but remains inactive”* (Interview No.1 2007).

Now the research will turn to discuss how the local ICZM initiatives have dealt with the lack of institutional arrangements for facilitating coordination.

Egypt deals with the local ICZM as a project not a process, trying to engage as much as possible with the stakeholders in the project and then preparing the project

document without creating any institutional arrangements for the sustainability of this integration. For example, the CAMP Fuka-Matrouh project was led by the EEAA and all the activity was done by the IGSR team and international experts. The project aimed to establish a Governorate Coastal Planning Commission. This was intended to include representatives of the scientific community, local authorities, the business sector and NGOs, as well as other existing institutions dealing with development planning and environmental protection at the governorate level. It was intended to coordinate with the National Committee for ICZM and other competent administrative authorities for the initiation and coordination of short-, medium- and long-term actions (PAP/RAC 1999). However, the proposed Commission was never established due to dealing with the project piecemeal, not as part of the process of ICZM, which should have clear institutional arrangements to achieve sustainability. For instance, one of the interviewees argued that *“Although the CAMP Fuka-Matrouh project proposed a Governorate Coastal Planning Commission, the project has not clarified how this Commission would be accommodated within the governorate structure and who would be the lead authority in coastal management. In fact it was just a proposal without any clear institutional framework”* (Interview No.42 2009). In the same way many of those interviewed in the Matrouh Governorate reported that there was no clear as to what the role of the proposed Commission would be nor how it would work with other governorate entities and indeed whether this Commission would have any power (Interview No.10 2007; Interview No.11 2007; Interview No.12 2007).

In the RSCMRM, the creation of a local forum called the Project Management Group comprising the heads of the TDA, the EEAA and the Red Sea Governorate as well as the project and operations managers, who met frequently on a monthly basis during implementation, was seen as a good example of a coordinating body (World Bank 2002). However, once the project was finished, the forum became inactive due to the fact that the project was delivered in piecemeal way rather than as a part of the process of ICZM. In this respect one of the interviewees supported this assertion and gave more details that *“although the RSCMRM project created a local forum, this forum became inactive when the project finished. The reason for that there was no clear institutional framework clarifying how this forum would be accommodated within the governorate structure”* (Interview No.26 2009).

Although the point that saw ICZM initiatives dealt with as a project not a process is obvious in all first phase initiatives, it happened again in the second phase initiatives. For example, the Port Said project had some good ideas about developing fish farming and maintaining the irrigation system, yet the project team did not create or design any institutional arrangements clarifying how these schemes could be implemented (El-Kady & Elarabawy 2008; El-Quosy 2009; Nawar & Kashef 2007). Instead, the team asserted that their aim was to produce an ICZM plan that is easy to sell to a donor agency to obtain funding for implementation and also argued that this should be done by the Governor of Port Said, who was not one of the project partners (Tahoun 2007; Tahoun et al. 2007b). For instance one of the interviewee claimed that *"the Port Said project has not clarified any institutional arrangements for the coordination between local stakeholders or at least for the implementation of the project proposed plan"* (Interview No.24 2009).

On the other hand, the ALAMIM give a good example of formulating a coordination body that could follow up the final project plan. To be more specific, the project conducted two studies - a Stakeholders' Analysis and a Stocktaking Analysis - of the institutional, legal and financial aspects. These two studies helped to create a clear framework for managing Lake Maryut based on the proposal for creating an integrated management unit in the governorate. Moreover, the ALAMIM partners offered to help in establishing the integrated management unit and empowering it with trained staff and efficient management tools (El-Refaie & Ragué 2009; Marfà 2008). In this respect one of the interviewees noted that *"the ALAMIM project engaged all the Lake Maryut main stakeholders in the process of preparing the project. Moreover the stakeholders agreed collectively to the proposal of creating an integrated management unit at the level of the governorate. Then through the project development process a clear institutional framework was developed for this unit"* (Interview No.38 2009). In the same way another interviewee supported this claim, indicating that *"the proposal for creating an integrated management unit was very reliable solution for solving the conflict of interests towards using the Lake. It is based on clear institutional arrangements that will help to achieve integrated management for the Lake"* (Interview No.37 2009). Another interviewee who reflected the views of several other suggested that *"I am sure that the proposed unit will be established and operationalized to manage the Lake in the near future"*

*because the project gives clear arrangements defining clearly which actor is responsible for what and how these actors can interact together”* (Interview No.35 2009).

To conclude, overlapping and/or unclear responsibilities combined with the absence of a clear institutional arrangements framework to accomplish coordination between all concerned parties make effective ICZM more difficult to achieve. In addition, most of the local initiatives did not have permanent arrangements or a framework for clarifying the responsibilities between the various actors and setting priorities.

#### **8-4 Financial resources**

Financial resources are essential to initiate and support the ICZM process. In this section the financial resources for ICZM initiatives in Egypt will be discussed. The work in this section is based on answering these questions: Are the available financial resources adequate to start an ICZM process? Have adequate financial resources been committed for full implementation? Are financial resources being allocated on a sustainable basis?

Egypt, as a developing country, has limited public resources, especially with regards its financial capabilities. Resources are allocated for socio-economic development rather than for environmental issues (Mansour 2006). Recognizing these financial limitations, Egypt has established an Environmental Protection Fund (EPF) in order to try to stimulate investments in the environmental sector in order to support the environmental, social and economic policies in the pursuit of sustainable development. The EPF was established within the EEAA in 1994, according to article 14 of the Environmental Law (4/1994), yet it was only operationalized in June 2000 (DAME 2004; World Bank 2005a). The financial resources of the EPF include revenues from entrance fees from the designated sites of natural importance, and fines for environmental violations (DAME 2004). However, many of those interviewed reported that this fund has not been effective (Interview No.7 2007; Interview No.16 2009; Interview No.23 2009; Interview No.27 2009; Interview No.33 2009; Interview No.35 2009; Interview No.41 2009). To be more specific, one of the interviewees reported that *“the use of EPF instruments has been undermined due to the limited capacity of EPF staff and the consumption of the limited funds for*

*the salaries of the EEAA staff*" (Interview No.1 2007). Furthermore, another interviewee noted that *"There is limited funding and support provided to coastal management projects"* (Interview No.4 2007). Similarly, another interviewee commented that *"Clearly, many of the funds needed should be provided by the Egyptian Government, which requires the availability of explicit budgets and the establishment of a financial implementation system which has not been in place until now"* (Interview No.36 2009).

As a result of limited financial resources and the ineffective EPF to support sustainable development, DAME (2004) stresses that donor funds were the main source of financing for coastal management initiatives in Egypt. Indeed, all the environmentally based activities including national and local ICZM initiatives in Egypt were reliant on international assistance (Wilson, Meyer & Skeat 1998). In this regard Ibrahim (2009) argued that the Egyptian environmental initiatives, especially in coastal management, are largely symbolic and designed to attract foreign aid. Table 8-3 shows the budget of the Egyptian ICZM initiatives including the percentage of the donors fund to support these initiatives.

Based on Table 8-3 it can be clarified that many international organizations were/are involved in coastal zone management in Egypt and most of the activities were/are undertaken on a project basis that is funded by external donor funds from both bilateral and multilateral sources with minor, often "in-kind", governmental contributions (Borhan, Farouk & Hamdy 2003). For example, in CAMP Fuka-Matrouh funds for the planning phase were made available through METAP and the Egyptian Government. In fact METAP provided US\$300,000 and the EEAA provided (in kind) US\$100,000 (PAP 2005). Another example is the RSCMRM project which cost US\$5.73 million, of which GEF allocated US\$4.75 million for the project, with the Egyptian Government funding (in kind) US\$0.98 million (GEF 2002).

Furthermore, through reviewing the national and local ICZM initiative documents it can be emphasized that all the ICZM second phase initiatives still depend on donor funds (EEAA 2009c; Marfà 2008; Tahoun 2007). For instance, the initiatives involved in preparing the national ICZM strategy were funded by SMAP III (EEAA 2009c). The general outline of the national ICZM strategy was prepared in 2007 by the Department for Coastal and Marine Zones Management. However, due to a lack



of funding, a detailed strategy was not prepared until the EEAA gained specific funds from SMAP III for this particular activity to prepare it in November 2008 (EEAA 2009c). In this regard, one of the interviewees argued that *“The structure for an ICZM strategy was prepared in the EEAA in 2007 but we had no monetary resources to start the preparation”* (Interview No.17 2009). Another interviewee stressed that *“Without the SMAP III fund the national strategy would not have been prepared due to our lack of financial resources”* (Interview No.15 2009).

Table 8-3 The budget of the Egypt’s ICZM initiatives

ICZM phases	ICZM project/ programme	Egyptian Government (in kind) %	International Donors %	Total budget
Phase 1	Preparing a national ICZM framework	N/A	DGIS and DANIDA N/A	N/A
	FUKA-Matrouh Coastal Area Management Programme (CAMP).	25%	METAP 75%	\$400,000
	Red Sea Coastal and Marine Resource Management programme (RSCMRMP).	17%	GEF 83%	\$5.73 million
Phase 2	Preparing the National ICZM Strategy for Egypt.	N/A	SMAP III N/A	N/A
	Alexandria Lake Maryut Integrated Management (ALAMIM).	23%	SMAP III 77%	€779,405
	Plan of action for an ICZM in the area of Port Said.	20%	SMAP III 80%	1.8 million Euros
	Integrated Coastal Zone Management between Matrouh and El Sallum (MSICZMP).	N/A	Spanish Agency for International Cooperation N/A	N/A

N/A: There is no available information about the total budget or the percentage of donors/ Egyptian Government funds.

Source: all Egyptian ICZM initiatives documentary data

Furthermore, all of the local ICZM projects in the second phase are based on international donors. In particular the ALAMIM project which was financed by the SMAP III. The total budget of the project was €779,405, comprising a €598,905 grant from the SMAP III and the rest in kind provided by the Egyptian partners (SMAP 2008a). Again, the Port Said project has the same approach, in fact the total budget of the project was around 1.8 million Euros which includes an 80% grant from the SMAP III and the rest in kind provided by the Egyptian partners (SMAP 2006).

Thus it can be seen that, in both of the ICZM phases, Egypt has been heavily dependant on donor funds to initiate and prepare the ICZM activities at national and local levels. However, the question now is what happens after donor funds run out or are stopped.

Most of the funds available from international donors are for research and planning in coastal zones and there is no evidence of ongoing international support to follow up with the implementation of the development programme or of its individual components (CoastNet 2008). However, there are many types of economic instruments that could be used in implementing ICZM plans, particularly Public Private Partnerships (PPP), Revolving Funds, Private Sector Funds, and Investment Funds (Cummins, Mahony & Connolly 2004).<sup>31</sup> However, there is no evidence that these economic instruments are being considered in Egypt to support the ICZM implementation (EEAA 2009c; World Bank 2002, 2005b). This was, and still is, one of the main factors contributing to the lack of sustained progress in the Egyptian ICZM (EEAA 2009b; METAP 2006; Trumbic et al. 1999). In other words, ICZM in Egypt has failed to generate sufficient government resources for effective implementation.<sup>32</sup> In this regard most of the participants in the three workshops for preparing the Egyptian national ICZM strategy emphasized the fact that there is no mechanism for the self-financing of ICZM projects and the government needs to take further steps to ensure that financial resources are available to implement an effective ICZM process (EEAA 2009c).

Borhan, Farouk & Hamdy (2003) emphasise that it has to be noted that delays in ICZM plan adoption and the inability to achieve objectives are largely due to a lack of financial resources supporting the implementation phase. Consequently, one of the biggest problems of the local ICZM initiative, even if good results in preparing the proposals were achieved, is that they were left hanging in the air because of low financial sustainability (PAP 2005; World Bank 2002). In particular, the CAMP in Fuka-Matrouh had a fund for the planning phase which was made available through METAP. However, the project did not have enough financial resources to continue once the donor stopped the funding which led to failures in follow-up and monitoring

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<sup>31</sup> More details in section 3-4

<sup>32</sup> This could be the result of the lack of integration or inadequate participation (more details in sections 8-5 and 8-6)

as the weak and limited institutional infrastructure collapsed (IH Cantabria 2007). In the same way, Trumbic *et al.* (1999) clarified that the CAMP project had not secured enough longer-term financial resources to ensure the project sustainability. In fact, there is no evidence that any financial resources have been secured for any follow-up proposals. In this regard, one of the interviewees, who reflected the views of several others, claimed that “*There were and still [are] no specific mechanisms or financial resources for implementing local projects, particularly operational actions and follow-up aspects*” (Interview No.12 2007).

Furthermore, the same situation is illustrated in the second phase of ICZM in Egypt. For example, the Port Said project team from the beginning of the project emphasized that the main objective of the ICZM plan was to be solid, convincing and, as a consequence, easy to sell to a donor agency in order to obtain further funding for implementation after the original project finishes (Tahoun 2007). So it was clear from the beginning that the project did not have any mechanism for sustainable ongoing resourcing.

On the other hand, although the ALAMIM project was prepared using a grant from SMAP III, it was clarified from the beginning of the project that once the grant ended the local authorities would need to support the project (ALAMIM Team 2007). Since this project is demand-driven by local authorities and seems to be fully-supported by the Governor of Alexandria, this should in theory ensure official commitment for financing its outcomes once the grant ends, especially as its specific objectives, activities and outcomes were prepared in consultation with the local authorities (El-Refaie & Ragué 2009). However, most of the interviewees were cautious about whether the project would continue after the grant ended as a direct result of lack of vertical integration between the project partners and the central government, which allocates the funds to the governorate (Interview No.9 2007; Interview No.17 2009; Interview No.20 2009; Interview No.22 2009).

To conclude, the Egyptian ICZM initiatives have failed to generate sufficient government resources for effective implementation. This has led to dependence on donor funds, which are still the main source of financing for initiating ICZM in Egypt. A general and major weakness of any ICZM initiative is that the funding is only available for the research and planning phase and there are no adequate financial resources being allocated, on a sustainable basis, for the full

implementation of the ICZM activities. Furthermore, as is clearly illustrated from the examples of the ICZM initiatives in both phases that Egypt embarked on the second phase ICZM initiatives without considering the lessons from past initiatives, as the ICZM initiatives still fail to generate sufficient financial resources for effective implementation.

## **8-5 Participation**

Stakeholder involvement and public participation are needed to give ICZM some chance of success in planning and implementation. This section discusses the public participation and the stakeholder involvement in ICZM. The work is based on answering the following questions: Are public and all the other stakeholders involved in the ICZM process? Does the focal actor support and enhance the public and the other stakeholders participation? Which levels of participation have been used through the implementation of the ICZM initiative?

This section is divided into two subsections. The first (8-6-1) examines the public participation. The second (8-6-2) evaluates stakeholder involvement in the ICZM initiatives in Egypt.

### **8-5-1 Public participation**

The Egyptian notion of ICZM in practice largely ignores public participation as an important factor. In fact, this neglect of public participation can be described as a continuous trend of all local Egyptian ICZM initiatives (González-Riancho et al. 2009). In the same way, Tortell (2004) claims that public participation is one of the weakest elements in the implementation of ICZM in Egypt. For example, in one of the first phase local ICZM projects in Egypt, CAMP Fuka-Matrouh, there was no system to encourage public participation (PAP 2005). In fact, public participation in this project was not given any priority. According to most of the interviewees, the project did not develop any mechanism to inform people about the project objectives and to encourage them to participate in it (Interview No.1 2007; Interview No.8 2007; Interview No.11 2007; Interview No.12 2007). In this regard, Trumbic *et al.* (1999) argued that the level of participation in the CAMP projects can be judged as unsatisfactory, particularly with regard to the participation of the general public.

Furthermore, in one of the second phase initiatives, the Port Said project, it was clear from its document that the project team understood that public acceptance, support and involvement in newly introduced concepts and approaches are greatly dependent on the level of education and awareness (El-Kady & Elarabawy 2008, p88). In this regard one of the interviewee argued that *“public awareness, acceptance and involvement are the key factors to ensure project success”* (Interview No.32 2009). However, the project has not introduced either a system to enhance public awareness or a mechanism to encourage public participation. There were a few demonstrations in the Port Said project for local people, but these were about establishing a fish farm and digging a new canal to enhance the irrigation system. However, the project has not raised awareness among the people about ICZM concepts and coastal issues (AbdelWahab 2009; El-Quosy 2009; IAS 2008). In this respect, one of the interviewees emphasized that *“Although there was public training in the Port Said project, it was concentrated on irrigation systems and fish farms without any concentration on the coastal zone issues and the ICZM approach”* (Interview No.24 2009).

Furthermore, the MSICZM project in its first phase did not involve any local people or NGOs in the governorate. Indeed, the first phase of the project was carried out exclusively by the partner largely as a technical exercise without any public participation (IH Cantabria 2007). For instance, one of the interviewees argued that *“The MSICZM project has not developed any mechanism to encourage public participation or at least to enhance public awareness about ICZM”* (Interview No.40 2009).

Another example could be illustrated by the ALAMIM project. The project gives a mixed picture about public participation as it took some steps towards encouraging participation but at the same time did not involve local people in the process of the project. The project recognized the importance of raising public awareness about the Lake problems and the concept of ICZM (El-Refaie & Ragué 2009; Marfà 2007). In this regard, the project involved one of the NGOs, Environment Friends Society, which has an interest in the Lake and prepared a plan and a film for raising public awareness. However, the project partners decided to postpone their public awareness campaign until after the project was completed (El-Refaie & Ragué 2009; Kafafi 2007). In this regard, one of the interviewees commented, *“What do you think, we*

*cannot tell people now about what we will do because we do not know exactly what will happen. The political changes in Alexandria have affected the progress in developing the strategic planning for Lake Maryut Zone, for example the urban development plans for the land around the Lake. So it is better to wait until finishing the project activities and then let the local people know about it*" (Interview No.20 2009).

The previous examples give the impression that public participation in Egypt rarely occurs and when it is practised it is just a passive participation for collecting data through the project preparation or by telling the people what has been decided after the project has been completed. Hence public participation was or is seen as a process of importing information rather than engagement or empowerment and according Arnstein (1969) ladder of public participation this can be seen as tokenism. In this regard many interviewees argued that public participation is still one of the issues to which most of the ICZM actors in Egypt pay lip service too. They are not prepared to endorse its practical implications (Interview No.1 2007; Interview No.8 2007; Interview No.11 2007; Interview No.13 2007; Interview No.15 2009; Interview No.18 2009; Interview No.33 2009; Interview No.44 2009). For instance, one of the interviewees noted that *"The whole process of resource and coastal management decision-making invariably only involves special groups such as government officers and certain experts"* (Interview No.5 2007). Similarly, another interviewee argued that *"Local people have almost no opportunity to become involved in the management system of the areas where they are resident"* (Interview No.36 2009). Furthermore, one interviewee commented, *"We are speaking about public participation in ICZM projects. This is bluffing – people participate by being told what has been decided or has already happened and we call it public hearing"* (Interview No.1 2007).

In fact, there are many challenges to public participation in a collaborative process such as ICZM. Firstly, there is a lack of awareness about public participation. Secondly, the community distrust the government policies. Finally, there is an absence of any effective mechanism stimulating the public to participate in order to gain from their involvement. In this regard, Nawar & Kashef (2007) claim that there is a lack of application and persuasion of the participatory concept in environmental management in general, and in the management of the coastal zone specifically.

Furthermore, Borhan (2007) highlights that the lack of public participation in ICZM is due to the lack of a legal basis in Egyptian law for ensuring:

- Public access to information on the state of the marine environment and related health hazards;
- Public participation in planning and decision-making about the marine environment; and
- Public access to conflict prevention and resolution mechanism.

Moreover, one interviewee commented, *“Until now the people have not been ready to participate in ICZM. The government needs to develop community trust which supports the ICZM programmes”* (Interview No.7 2007). In this regard, another interviewee reflected the view of the others, asserting that *“Egypt is still far from having real public participation, the people distrust the government and the government has not done anything to encourage the people to participate in the decision-making process and management of coastal zones”* (Interview No.16 2009). In the same way, one of the interviewees from one of the NGOs which have an interest in fisheries society at Lake Maryut claimed that *“We do not know anything about the ALAMIM project but every day we hear contradictory news. One day they say that the Lake will dry up. They will build a new city and the fishermen will lose their jobs. Then another day we hear they will enhance fisheries development. In fact we do not have any trust in any governmental programme because we do not know their intentions”* (Interview No.45 2009).

Furthermore, another interviewee commented *“ICZM success depends on the degree of public endorsement achieved. However, Egypt is still far away from real public participation which is the result of a lack of awareness regarding the coastal issues”* (Interview No.2 2007). El-Ghorab (2005) highlights that the public awareness of coastal values and the need for conservation is almost totally absent. For instance, environmental concern, especially related to coastal issues at an authoritative level, is relatively recent, introduced in Egypt in the 1990s. Among businesspeople and citizens, it still is, to a great extent, an abstract concept (Ibrahim 2009). For example, in the CAMP project, private investor groups of actors were neither interested nor aware of the environmental problems, especially the coastal issues and their impact on their investments. This situation led them to reject participation, especially as

there was no mechanism through the project to raise their awareness or stimulate them to participate (El-Raey 1999b).

In addition, DAME (2004) highlights that widespread illiteracy and poverty impede the public from participating in coastal issues. For instance, one interviewee acknowledged that *“as a result of ignorance and poverty there is an absence of public awareness of coastal values and the need for conservation”* (Interview No.4 2007). Consequently, the people are still considered unqualified to participate in the ICZM projects, especially the weaker user groups such as fishermen and local communities (El Raey 2004). This means that poor public awareness is seen as an obstacle to effective public involvement (Ezz 2005). In this regard, the EEAA clarified that engaging the public to participate in the ICZM process is hard as a direct result of their lack of awareness about environmental issues (EEAA 2007). However, there is no evidence that the EEAA as a focal actor in ICZM initiatives has used any mechanism to enhance public awareness. In particular, one of the interviewees, who reflected the views of several others, claimed that *“There was no specific system for raising public awareness through the local projects. So the people were not interested in the projects”* (Interview No.11 2007). Consequently, the participants in the preparation of the national ICZM strategy confirmed that Egypt still suffers from a lack of public participation in all planning and management projects, especially coastal programmes, as a direct result of the high proportion of people who are ignorant about coastal issues and a lack of public awareness regarding such issues (EEAA 2009c). To be more specific, the EEAA as focal actor in the field of ICZM has not carried out its intended role to raise public awareness about coastal issues and the importance for ICZM as a process to achieve sustainable development. For instance, one of the interviewees argued that *“The EEAA does not have any mechanism to enhance public awareness about ICZM”* (Interview No.40 2009). In the same way, according to one interviewee who confirms the views of the others, *“it must also be noted that it is virtually impossible to have meaningful public participation without adequate public information. Real, meaningful public information is still elusive in general. As a result, public awareness is therefore still low and so is public participation”* (Interview No.3 2007). Furthermore, another interviewee highlighted that *“Although the EEAA has its own website, it has not used it to encourage people to learn about ICZM or at the very least giving any news*



*about the three workshops for preparing the ICZM strategy”* (Interview No.27 2009).

To conclude, the ICZM initiatives in Egypt largely ignored public participation. In fact this can be described as the sustained trend of the local Egyptian ICZM initiatives, which rarely engage in public participation, and when they do, it is just a passive participation. Furthermore, encouraging the public to participate in the ICZM process is hard as a direct result of their lack of awareness about environmental issues. However, there is no evidence that the EEAA as a focal actor in ICZM initiatives used any mechanism to enhance public awareness.

### **8-5-2 Stakeholder involvement**

In Egypt there is also a lack of stakeholder involvement. Borhan, Farouk & Hamdy (2003) pinpoint that there is inadequate involvement of stakeholders in formulating and implementing solutions to coastal management in Egypt. For instance, one of the interviewees noted that *“There is no regular forum for stakeholder participation in coastal development at both regional and local levels”* (Interview No.31 2009). Another interviewee highlighted the fact that *“ICZM efforts are in vain as a direct result of the absence of proper involvement of the various concerned actors”* (Interview No.4 2007). For example, Marfà (2007) highlights that past efforts to implement strategies and Master Plans for the development of the Lake Maryut area in Alexandria have failed due to neglecting the needs and involvement of stakeholders. Another example comes from the Fuka-Matrouh project, where there has been an inadequate involvement of stakeholders (El-Raey 1999a). For instance, one of the interviewees commented that *“The EEAA took the lead to initiate the programme and we did not have any role in this project – they just asked us for available data and we gave them all the information that they needed. After a long time they told us that they had prepared an integrated coastal area management planning study”* (Interview No.12 2007). In fact the project team was not set up based on the involvement of all main stakeholders. Reviewing the project document and the interviewees responses highlighted that the Matrouh Governorate, the General Authority for Fisheries and the SPA were not involved in this project, which hindered the implementation of the project recommendations (El-Raey 1999a; Interview No.11 2007; Interview No.29 2009; Interview No.42 2009; World Bank

2002). In this regard one of the interviewees, who reflected the views of several others, noted that *“It is unrealistic to prepare a plan for coastal management without involving the main actors. Consequently you cannot ask those actors who have not been involved in the Fuka-Matrouh project to implement its proposals”* (Interview No.43 2009).

In the same way, there was an inadequate involvement of stakeholders in the RSCMRM. Neither the General Authority for Fisheries nor the SPA were involved in this project (World Bank 2002). In this respect one of the interviewees supported this claim and gave more details that *“Although the RSCMRM project created a local forum contained TDA, the EEAA and the Red Sea Governorate to ensure the involvement of those actors, it was not encouraged other stakeholders such as the General Authority for Fisheries and the SPA to participate in the project process”*(Interview No.44 2009).

Clearly, a lack of stakeholder participation in ICZM is still predominant in all national and local initiatives, not only in the ICZM first phase but also in the second phase. To be more specific, most of the participants in the first workshop for preparing the national ICZM strategy emphasized that most stakeholders are underutilized in coastal management projects (EEAA 2009c, p3). In the same way, El-Quosy (2009) highlights that the participatory approach is still clearly missing between government officials, civil societies, private investors and intellectuals. Consequently, the last workshop for preparing the strategy concluded that engaging the concerned stakeholders in the coastal management process is the only way to achieve a successful outcome ICZM (EEAA 2009b, p5). However, the three workshops did not build any clear system to enhance stakeholder participation or clarify how this could be brought about (EEAA 2009a, 2009b, 2009c).

In fact, Egypt suffers from lack of stakeholder participation at both national and local levels. For example, although all relevant stakeholders should be involved in NCICZM, there is no member from the National Centre for Planning State Land Uses (NCPSLU) which is responsible for planning the land use of all parcels owned by the state and following up the development of these lands (George 2007; NCPSLU 2009). In this respect one of the interviewees argued that *“The NCICZM was re-established at the end of 2007 with the same previous members. This*

*committee was not been re-established based on any stakeholder analysis. As a result there is no member from the NCP SLU” (Interview No.33 2009).*

Furthermore, it can be illustrated through a review and assessment of local ICZM projects in the second phase that most of these projects have not included all the main stakeholders, which can dramatically affect the implementation of the projects. For example, the first phase of the MSICZM project has been prepared without the participation of the TDA, local stakeholders and the SPA, although the SPA was involved in another project to protect the shore in the same area (IH Cantabria 2007; SPA 2008). In addition, through the review of Port Said project documents and through the interviews, it has been clarified that two of the main actors in coastal management did not participate in the project. Firstly, the EEAA, the main ICZM actor in Egypt, did not participate in the project through either its RBO or through its main office in Cairo and, secondly nor did the SPA (IAS 2008; Interview No.19 2009; Tahoun 2007).

Moreover, progress in ICZM occurs when the implementing institutions have played a significant role in shaping the programme and feel a sense of ownership. However, most of the documents in all the local ICZM projects were prepared in English, which constrained the regional and local authorities from the use of these documents (AbdelWahab 2009; El-Refaie & Ragué 2009; IAS 2008; IH Cantabria 2007; Parpal 2006; SMAP 2006). In this regard one of the interviewees reflected the views of several others noted that *“almost all the ICZM projects prepared their reports in English, although we are in one of the Arabic countries. Consequently most of the stakeholders specially the local authorities could not understand what they were proposing”* (Interview No.23 2009).

Further to this, most of the ICZM documents and interviewees clarified that the main coordinator of the project was an international agency whose understanding of the local problems and conflicts was minimal (EEAA 2009c; Interview No.32 2009; Interview No.35 2009; Interview No.36 2009; Interview No.39 2009; Tahoun 2007). For instance, one of the interviewees pinpointed that *“at the local level, the sense of ownership was almost missing”* (Interview No.21 2009). In the same way, another interviewee highlighted that *“There is no sense of ownership in most of the local ICZM projects as these projects are initiated from the central government or an international organization and in most cases the main coordinator is a foreign*

agency” (Interview No.25 2009). For example, the main coordinator in the Port Said project was the International Centre for Advanced Mediterranean Agronomic Studies of Bari in Italy, and in the MSICZM project the main coordinator was IH Cantabria. Furthermore, in the Port Said and MSICZM projects the local stakeholders were not participating as partners or stakeholders in the projects which did not contribute to a sense of ownership. Thus this will hinder the implementation of the ICZM plan (IH Cantabria 2007; SMAP 2006, 2008b). To be more specific, one of the interviewees from the Port Said Governorate noted that *“We have not been involved in the project and no one has asked us about our needs. They finished a project which is concentrated on irrigation systems and agriculture while we face problems along our coastline and adjacent areas and we would like to concentrate on tourism development”* (Interview No.31 2009).

On the other hand, the ALAMIM project gives a good example of engaging all interested stakeholders in the preparation of the project. For instance, the project held numerous consultative meetings and seminars that were organized in order to integrate the stakeholder needs and interests within the design and implementation of the actions (CEDARE 2007). A number of coordination meetings were conducted - especially between CEDARE, the Alexandria Governorate and the EEAA - to ensure the full involvement of the main beneficiaries of the project in the implementation process (Marfà 2008). A Stakeholder Platform was set up by the project to be involved in the overall project implementation, which included representatives from the major stakeholders in the Lake Maryut Zone. Moreover, five working groups were set up, represented by partners, consultants and stakeholders in order to carry out and follow up the implementation of the project’s five main focus areas (CEDARE 2008a). In this respect one of the interviewees argued that *“No one can deny that all the major stakeholders in the Lake Maryut have been involved in ALAMIM project. This happen through a clear stakeholder analysis”* (Interview No.39 2009).

The previous examples highlight the idea that any ICZM project needs a clear stakeholder analysis. This has not taken place for most of the ICZM initiatives at both national and local levels (AbdelWahab 2009; EEAA 2009c; IH Cantabria 2007). Consequently, the stakeholders are not properly chosen and sensitized. In this regard, one of the interviewees pointed out that *“To have an effective ICZM,*

*especially at the local level, participation of all relevant stakeholders is a must which needs a clear stakeholder analysis at all levels. Then there needs to be a consensus built between stakeholders in contrast to what has happened in all previous projects”* (Interview No.29 2009). Likewise, another interviewee noted that *“We are in need of real involvement of the targeted beneficiaries at all levels in the process of decision making”* (Interview No.7 2007). Additionally, one interviewee, who reflected the views of several others, emphasized that *“Clearly, the involvement of all stakeholders is needed to achieve an effective ICZM process”* (Interview No.1 2007). In this regard, Ezz (2005) highlights that it is very important to have incentives that enhance participation among ICZM stakeholders. However, this is not available in Egypt. Many of those who were interviewed noted that currently there is a lack of any effective mechanism to encourage stakeholders to participate and gain from their involvement. In fact, one of the interviewees noted that *“As one of the stakeholders in the ICZM process, why do you think I will participate in this process? I need to know what I will gain and I need encouragement from the lead agency to participate”* (Interview No.41 2009).

To conclude, in Egypt there has been a lack of stakeholder involvement in coastal management activities, in all national and local initiatives, not only in the ICZM first phase but also in the second phase. To be more specific, many stakeholders are underutilized in coastal management projects. The reasons for this are twofold. Firstly there is an absence of a clear stakeholder analysis, which has not taken place within most of the ICZM initiatives. Secondly there is a lack of any effective mechanism to stimulate stakeholder participation in order to gain from their involvement.

## **8-6 Integration**

It is clear from best practice in ICZM that integration in all dimensions is essential for effective ICZM policy and practice (Courtney & White 2000; Jennings & Lockie 2003). This section evaluates the integration in ICZM initiatives based on answering the following questions: Have the integrating dimensions been recognized in ICZM initiatives? Do all the participating stakeholders at all levels collaborate with each

other? Which integration mechanisms have been used in order to implement ICZM? Are they effective?

ICZM in Egypt suffers from a lack of integration in all of its dimensions. For instance, one of the interviewees claimed that *“coordination between agencies in Egypt in the field of coastal management is still ad hoc and based on no clear system”* (Interview No.36 2009). In this regard, the World Bank (2005a) highlights that the motives for cooperation and integration in coastal management are very low. In the same way, one of the interviewees noted that *“Poor coordination among government departments and weak integrated management capacity has greatly hampered the management and development of the coastal zone”* (Interview No.5 2007).

Nawar & Kashef (2007) emphasize the fact that there is a lack of adequate coordination between stakeholders that hinders integration between horizontal levels. For example, the SPA without coordinating with any other actor in coastal management and focusing only on the construction of coastal protection structures, has prepared a shoreline management plan for many parts of the Mediterranean Sea (SPA 2008). In this regard one of the interviewees highlighted that *“The SPA implements many projects on the Mediterranean coast to protect the shore from erosion without any coordination with the EEAA or any other agency”* (Interview No.2 2007). In the same way, another interviewee who is working in one of the RBOs commented that *“we have no idea about the SPA plans for coastal protection, we have not been invited to participate in preparing these plans and we have not been informed about the proposed plans regarding our coastal zone”* (Interview No.38 2009).

Another example illustrates the lack of horizontal integration in Egypt. According to the Port Said project documents and interviews with the key actors, although one of the main partners in the Port Said project was the IAS, which is affiliated to the Ministry of Water Resources and Irrigation, the SPA, which is also affiliated to the same ministry, had no idea about the project and did not participate in its preparation. Nevertheless the SPA started to prepare a shoreline management plan for the Port Said coastal zone independently from this ICZM project (IAS 2008; Interview No.19 2009; Tahoun 2007).

Moreover, Egypt also lacks integration between the disciplines of coastal management. This can be illustrated through the gap in cooperation between decision makers and environmentalists regarding the government efforts to further expand and develop tourism in Egypt (Ibrahim 2009). In particular, the government offers tourism business activities a 5-year tax exemption on all profits accrued during that period. This can potentially contradict efforts to control existing coastal damage, considering that hotel and resort construction is a significant contributor to coastal and coral degradation (Sherbiny, Sherif & Hassan 2006). In other words, the financial incentives used to promote tourism growth and development contradicts the less successful command-and-control methods used to address environmental sustainability.

Further to this, the ICZM in Egypt also lacks policy integration. For example, by reviewing the Port Said project documents it was clear that the project had not integrated any other policies or plans, as it was concentrating on irrigation and agriculture. To be more specific, although Port Said offers considerable potentials and capabilities for tourism development in terms of physical, environmental, natural, historical and cultural resources, the project has not dealt with these potentials at all and has concentrated on irrigation management and agriculture (AbdelWahab 2009). In fact, the General Organization for Physical Planning (GOPP) prepared a strategy for the same area concentrating on tourism development in Port Said and aimed to utilize its capabilities and potentials in supporting and accelerating tourism development for Port Said. However, this has not even been acknowledged by the Port Said ICZM project neither has the GOPP been involved in the ICZM project (GOPP 2008). Moreover, a number of decisions were taken by the central government to change the character of Port Said from a mere commercial avenue to a comprehensive development region, e.g. by allocating an industrial zone on the outskirts of the city of Port Said and making use of the unique location of Port Said in promoting a new port for container traffic through the project of Sharq El Tafria (Elshinnawy 2009). However, Port Said ICZM project has not recognized or acknowledged these projects nor their effects on the ICZM plan (El-Quosy 2009). The project has emphasized the development of water irrigation and agricultural sectors due to the partners limited experience in other sectors and a lack of integration with other stakeholders. Above all, the project has not acknowledged the

potential effect of climate change on sea level rise in Port Said although the most optimistic scenario expected is that rises in sea level in the Port Said area will affect 210km<sup>2</sup> (15% of the governorate area) (El-Raey 2004; Elshinnawy 2009).

Furthermore, vertical integration is also completely lacking in coastal management. For instance, one of the interviewees asserted that *“there is neither communication nor integration between the EMU and the RBO as each of them is affiliated to a different ministry”* (Interview No.28 2009). In the same way, another interviewee stressed that *“there is a great overlap between the EMU and RBO mandates and there is lack of coordination between both of them”* (Interview No.33 2009). For instance, one of the interviewees supported this assertion and gave more details that *“There are many overlaps between our work in the EMU and the RBO work. There is no coordination between us e.g. both of us taking samples from the lakes and analysing the pollution levels. Furthermore, we have almost the same monitoring mandates”* (Interview No.20 2009). Moreover, there is a lack of vertical integration between the central EEAA and the RBOs. In particular, one of the interviewees suggested that *“in our RBO we have no idea about the ICZM national strategy which you said is now in progress”* (Interview No.39 2009). Indeed, nobody from the coastal RBOs attended any of the three workshops for preparing the ICZM strategy (EEAA 2009a, 2009b, 2009c).

Furthermore, spatial integration is missing in Egyptian coastal management. In particular, most of the ICZM local projects in Egypt concentrated on the land resources and land based pollution and in some cases this concentration was overstressed to a degree which neglected the sea itself. For example, the Port Said project concentrated on the land development, especially water irrigation and agriculture, without considering many issues related to the sea such as sea level rise, tourism development and the new container traffic port (El-Quosy 2009; IAS 2008; Tahoun 2007). In addition, the Port Said project area was part of three governorates (Port-Said, Sharkia and Dakahlia) where administrative boundaries are completely separate and there is no integration between these governorates. This in fact led the partners to concentrate only on one governorate (Port Said) in the project and exclude the other governorates from project activity (AbdelWahab 2009; IAS 2008; SMAP 2008b).



The previous illustrated examples reinforce the idea that Egypt is suffering from a lack of integration across all dimensions. In this respect, El-Ghorab (2005) emphasizes that one of the main challenges facing ICZM implementation is the lack of integration between different governmental agencies that are responsible for developing and managing coastal zones. In the same way, one of the interviewees noted that *“There is a lack of coordination between various kinds of institutions (governmental, non-governmental and private sector) which are working on, interested in, or affected by coastal areas”* (Interview No.1 2007). Another interviewee stressed that *“Traditionally, each department’s goals conflict with others and it becomes difficult for them to participate in an integrated management approach, unless there is a change in attitude”* (Interview No.5 2007). Furthermore, another interviewee who reflected the views of several others, highlighted the fact that *“The mechanisms for coordination with the EEAA and with each other are unclear”* (Interview No.6 2007).

In this regard, the World Bank (2005a) highlights that there seems to be a disconnection between environmental priorities and development priorities, and furthermore the issue of coastal zone management remains one of the most pressing environmental inter-sectoral problems in Egypt. Furthermore, the coordinated actions in coastal management between economic, sectoral ministries and local government are irregular. In fact, the problem is due not only to lack of coordination between departments, but also to a lack of vertical integration between organizations. In particular, one of the interviewees noted that *“The challenge of achieving integration lies in the fact that different levels of government typically do not work together”* (Interview No.3 2007). Furthermore, there is often an absence of any coordinating mechanisms to derive collective and integrated approaches to coastal management and there are often constraints due to overlapping, competition, and gaps in horizontal and vertical communication (González-Riancho et al. 2009). By this is meant that there is no clear system to coordinate the stakeholders or to integrate their policies.

In this regard, one of the interviewees stressed that *“If we need to apply ICZM in Egypt we need coordination bodies at all levels that are well-linked as a network. Otherwise all our efforts will be in vain”* (Interview No.27 2009). Another interviewee argued that *“The need is urgent to establish a mechanism to coordinate,*

*communicate, disseminate and harmonize the present national and local coastal activities”* (Interview No.2 2007). Indeed, the participants in the first workshop for preparing the national ICZM strategy agreed that Egypt was, and still is, suffering from a lack of any kind of network to help achieve the integration and coordination between the stakeholders at national, regional and local levels (EEAA 2009c). Regrettably, there is no evidence that the proposed strategy finds a solution to this issue (EEAA 2009b). In this regard one of the interviewee illustrated the views of the others, by commenting that *“Although there is a significant need to create a clear mechanism to achieve integration at all levels among all kinds of institutions which are working on coastal activities, the proposed national strategy has not developed any scheme to address this issue”* (Interview No.17 2009).

The previous argument regarding the integration in coastal management in Egypt creates the need to answer these questions: What mechanisms have been used in the ICZM initiatives in both phases to tackle these problems and are they effective?

In 1996, the EEAA established the NCICZM, which set out to achieve horizontal integration between ministries by bringing all of the concerned ministries together. However, the committee has not practised its mandates and has been inactive (El-Ghorab 2005; World Bank 2005a)<sup>33</sup>. In this regard, one of the interviewees commented that *“the NCICZM has been inactive for several years which means that policy dialogue and consistency analysis between governmental stakeholders with different visions on the use of coastal areas had also been reduced or disappeared”* (Interview No.3 2007).

In the ICZM second phase, the EEAA re-established the NCICZM at the end of 2007 as a first step in applying for funding from PAP/RAC to prepare the national ICZM strategy (Interview No.33 2009; Interview No.41 2009). However, many of the participants in the first workshop for preparing the national ICZM claimed that the NCICZM cannot fulfil its intended function without having a technical sub-committee which would include experts and managers from all the agencies working and helping the NCICZM to perform its role (EEAA 2009c). Furthermore, Ibrahim (2009) argues that, in most cases, representatives in the NCICZM are not authorized to take decisions and they do not report progress to higher levels which makes

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<sup>33</sup> This has been discussed in details in section 8-3-2

participation ineffective. In this regard, one of the interviewees suggested that *“The top ranked employees who are members of the NCICZM in most cases could not attend the meetings of the committee. Instead they sent their assistants to attend which affected the decision-making process of the committee”* (Interview No.41 2009). A review of the attendance list of the three workshops for preparing the national ICZM, confirms this interviewee’s observation. Table 8-4 shows the members of the NCICZM who should attend the workshops and the real attendance list of the three workshops. For example, the head of the TDA did not attend and sent the environmental sector manager instead; similarly, the EEAA Executive Director did not attend and sent the head of the coastal and marine zones management department instead (EEAA 2009a, 2009b, 2009c). Such circumstance gives the impression that the committee is not powered by the key actors and the use of assistants means that decisions are difficult to make. Therefore the committee is still not able to fulfil its intended function.

Based on the above, it seems clear that in the first phase of ICZM, Egypt had no effective integration mechanisms at the national level. Furthermore, although Egypt has the NCICZM in the second phase, it seems to be an ineffective integration mechanism.

Furthermore, although the three workshops for preparing the national ICZM strategy concluded that each coastal governorate should prepare its own ICZM plan, there was neither discussion nor recommendations on how these plans should be prepared and how they would be integrated with each other (EEAA 2009a, 2009b, 2009c).

Reviewing the local ICZM projects in both phases of ICZM highlights that although there were two local ICZM projects in the first phase, they did not established any coordinating body to continue to implement and follow up these projects (El-Raey 1999a; GEF 2002). For instance, one of the main problems that faced the CAMP and RSCMRM from the beginning was the lack of integration of policies among the various bodies in charge of different sectors or geographic segments of the coast (El-Raey 1999a; World Bank 2002, 2003). Moreover, there is no evidence that the CAMP project team developed any mechanism to enhance integration throughout the process of the project or afterwards (Tortell 2004). Furthermore, although the RSCMRM established a local forum who met frequently, on a monthly basis during

the project preparation, once the project was finished, the forum became inactive (World Bank 2002, 2005a).

Table 8-4 The NCICZM Ministries and Organisations Representatives in the three workshops

<b>Ministries /National Institutions</b>	<b>Title / position should attend</b>	<b>The real attendance list of the three workshops</b>
EEAA	Executive Director	Head of the Coastal and Marine Zones Management department
Ministry of Agriculture-General Authority for Fish Resources Development	Head	General Director of Aquaculture and Lakes
Ministry of Agriculture-Agriculture research centre	Head Agriculture research centre	Deputy of Land Use, Water and Environment Research Institute
Ministry of Water Resources and Irrigation, SPA	Head of SPA	Head of SPA
Ministry of Water Resources and Irrigation, Shore Research Institute	Head	General Director of Research and Studies
Ministry Transportation	Head of the naval transportation sector	General Director of Safety & Environment, and
Authority of Harbours and Lighthouses	Head Authority of Harbours and Lighthouses	General Director of Environmental Affairs
Ministry of State for Scientific Research, National Institute of Oceanography and fishery	Head National Institute of Oceanography and fishery	Head National Institute of Oceanography and fishery
Ministry of State for Scientific Research, National Authority for Remote Sensing and Space Sciences (NARSS)	Head National Authority for Remote Sensing and Space Sciences (NARSS)	Head of Agricultural Application Department
General Organization for Physical Planning (GOPP), Ministry of Housing, Utilities and New Urban Communities	Head	Vice President of General Organization for Physical Planning
Ministry of Tourism - Tourism Development Authority (TDA)	Head of the TDA	General Director of Environment
Ministry of Defence	Chief of Naval Staff	Vice Chief of Naval Staff
Ministry of Planning	Head of the Health, Social and Presidential Service Sector	Member
Egyptian General Petroleum Corporation EGPC, Ministry of Petroleum	Vice-Chairman	Manager of Environmental Protection and Industrial Safety
Business private sector	Representative to be selected by the EEAA Executive Director	N/A
National ICZM expert	To be selected by the EEAA Executive Director	Environmental Consultant
NGOs	To be selected by the EEAA Executive Director	N/A
EEAA, the Coastal and Marine Zones Management department	Head	Head of the Coastal and Marine Zones Management department

Source:(EEAA 2009a, 2009b, 2009c)

Further to this, two of the second phase local ICZM projects have not established any coordinating body to continue to implement and follow up these projects. To be more specific, in the Port Said project two local partners carried out the project activities

without the participation of local stakeholders (AbdelWahab 2009; IAS 2008). Likewise, the MSICZM carried out its first phase depending on its two partners without any participation from local stakeholders (IH Cantabria 2007). In this respect, one of the interviewees argued that *“Local ICZM initiatives in Egypt are still accomplished on a project-based manner. When the project finishes the preparation of its reports all its activity stops and there is no mechanism for coordination or follow up of the project’s final plans”* (Interview No.20 2009).

On the other hand, the ALAMIM provided a good example by having a clear integration mechanism. To be more specific, throughout the project preparation there were two main coordinators of project activities. Firstly, the general coordinator, MEDCITIES, which was the main entity contracted by the European Commission who in turn signed individual contracts with the rest of the project partners (Marfà 2008). It coordinated the overall activities of the project, provided technical support and was responsible for the organization and implementation of the activities that were carried out in Europe. Secondly, the Egyptian coordinator, CEDARE, who acted as the coordinator of the activities in Egypt, and was responsible for the implementation of the various project activities in Alexandria in coordination with MEDCITIES and the project partners (ALAMIM Team 2007; CEDARE 2007). Furthermore, the project was based on two studies - a Stakeholder Analysis and a Stocktaking Analysis, it proposed creating an integrated management unit at the governorate level and empowering it, with trained staff and efficient management tools, to become the core future integration authority, if and when it is established (El-Refaie & Ragué 2009; Marfà 2008). In this respect one interviewee, reflecting the opinion of many others, claimed that *“Through the ALAMIM project almost all the Lake stakeholders integrated together through the frequently meetings which were coordinated by CEDARE and MEDCITIES. Thus the stakeholders reached collectively to propose an integrated management unit to manage the Lake and to follow up on the project’s final plans”* (Interview No.39 2009).

To conclude, the absence of any clear mechanism for coordination between all concerned parties makes effective ICZM unachievable and efforts towards integration are often left to the goodwill of involved agencies and stakeholders. Moreover, it seems that Egypt has embarked on the ICZM second phase initiatives without considering the lessons from the first phase. Indeed, the absence of an ICZM

policy or strategy at national and regional levels is still one of the main problems that face the implementation of local ICZM projects. Besides, most of the ICZM local projects in both phases failed to create local networks that enhanced the integration between stakeholders and ensured that the proposed ICZM plan could be implemented in a sustainable manner.

## 8-7 Decentralization

Decentralization makes participation effective, as it allows civil actors to localize issues and find local solutions to local problems (Handoussa 2004). This section discusses decentralization in Egypt. To be more specific, the work in this section is based on answering these questions: What are the forms of decentralization in coastal management? Are they effective? Do the local actors have the capacity to manage their coastal zone?

Borhan (2007) claims that real decentralization in Egypt will take decades before becoming a reality as a result of the dominant historical culture among officials, mistrust between officials and citizens, the lack of personnel capabilities and the existing institutional and legal frameworks.

On the other hand, it is undeniable that there are a few on-going efforts within the context of Egyptian environmental management to decentralize the management. As a step towards decentralization of activities, the EMU has been set up in each of the governorates as well as the RBOs (EEAA 2005). However, the World Bank (2005a) emphasizes that the division of legal mandates and responsibilities between RBOs and EMUs has not been fully clarified. Indeed, in 2001, the Chief Executive Officer of the EEAA issued decree number 17/2001 that defined the tasks of the RBOs<sup>34</sup>. Despite this, one of the interviewees noted that *“although guidelines for dividing mandates between RBOs and EMUs have already been prepared by the EEAA, their implementation has still to be worked out through practical experience”* (Interview No.23 2009). In this regard, it is clear from the interviewees’ comments that there is

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<sup>34</sup> Further details about the EMUs and RBOs mandates are in section (5-2-2)

an overlap in practice between both EMU and RBO, that is, both of them do the same job without any coordination between them.<sup>35</sup>

Furthermore, DAME (2004) argues that the RBOs and EMUs still need additional staff, training and office and technical equipment in order to fulfil their responsibilities. One interviewee commented that *“we have RBOs and EMUs but they have no real capacity to practise decentralization of coastal management”* (Interview No.4 2007). To be more specific, all the eight initiated RBOs stand on an equal footing whether they have a coastal zone or not. Each branch office comprises four departments without any specific department for managing the coastal zone, namely:

- Environmental Information and Education Department,
- Environmental Quality Department,
- Environmental Development Department,
- Financial Affairs Department (Helmy 2007).

Moreover, neither the EMUs nor the RBOs have any specific person who deals with coastal zone management issues (Kafafi 2007). For instance, one of the interviewees emphasized that *“with the absence of a regular evaluation of environmental status for the coastal zones on the local level by the RBOs or EMUs, it is impossible to progress coastal management”* (Interview No.39 2009). Another interviewee acknowledged that *“there is a great need for coastal evaluation and management units in each coastal governorate to support the implementation of ICZM”* (Interview No.43 2009). In the same way, one of the interviewees, who concurred with the observations of several others, commented that *“decentralization is needed through supporting and enhancing the establishment of regional and local enforcement environmental units which is not available at the moment”* (Interview No.1 2007).

In this regard, the World Bank (2005a) emphasizes that decentralization of decision-making mechanisms requires good planning and understanding at different levels. In other words, decentralization of environmental management functions would require

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<sup>35</sup> This point has been discussed before in the integration section (8-6)

strengthening the staff through external training or local training by the local universities and research institutes, and gradually increasing responsibilities with the assistance of local experts from the local universities (Ibrahim 2009). Indeed, the local level of environmental monitoring and control and enforcement must be made effective if the coastal zone management goals are to be realized (Helmy 2007). Professional and technical staff must be attracted to work in the governorate by defining increased responsibilities and clear procedures for the work of the regional and local environmental offices (EEAA 2007; EIECP 2002). For instance, one of the interviewees, who reflected the views of several others, noted that *“The decentralization of coastal management functions requires support for the staff at the local level and increasing gradual [sic] responsibilities with the assistance of local experts. However, the EEAA has no capacity to do this. In addition, they have contracted new temporary staff to prepare the local ICZM projects in Cairo without any involvement from the local stakeholders”* (Interview No.10 2007).<sup>36</sup> In addition, although the three workshops for preparing the national ICZM strategy concluded that each coastal governorate should prepare its ICZM plan, the EEAA has not developed any strategy to enhance the capacity of those local governorates in order that this can take place (EEAA 2009c).

Furthermore, many of the interviewees asserted that Egypt in general still suffers from centralization and all the decrees and good intentions towards decentralization need to be practiced in reality (Interview No.21 2009; Interview No.22 2009; Interview No.27 2009; Interview No.30 2009). In the same way, El-Quosy (2009) emphasizes that, although a government decentralization policy was issued in 2005, nothing has materialized on the ground. DAME (2004) clarifies that the dominance of the centralized approach and related attitudes in Egypt are still considered a real barrier to integration and coordination among sectors, even within the same sector. In this regard, Nawar & Kashef (2007) stress that the ICZM practice in Egypt is still suffering from centralization in the management. Moreover, another interviewee noted that *“If you want to apply ICZM as a process in Egypt you need to seek at least the auspices of the prime minister, otherwise there is no support for ICZM as we are living in a centralized country”* (Interview No.41 2009). In the same way, one of the

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<sup>36</sup> Further details relating to capacity development in local ICZM projects were illustrated in section (8-2)



interviewees, who confirmed the views of several others, noted that “*we are really centralized and no decision could be taken on the local level without the approval of the central government*” (Interview No.38 2009). For instance, according to the new environmental law (No. 9/2009), all EIAs studies should be prepared by the investors and submitted to central government to be reviewed by the EEAA in the department of EIA in Cairo (Ibrahim 2009). Another example is illustrated through the Shore Protection High Committee (SPHC). According to Prime Ministerial Decree No. 1599/2006 this committee was established in Cairo to define the width of the Setback Zone and other conditions for development and issue the related licences to the investors (Nazif 2006). To be more specific, one of the interviewees argued that “*any investor who would like to invest in the setback zone in any governorate should apply to this centralized SPHC to gain the licence and there is no regional or local branch for this committee*” (Interview No.17 2009).

Furthermore, reviewing the ICZM local project documents and the interviewees’ comments highlighted the fact that almost all the local projects were prepared by central government without any participation from local officials and there were no practical steps for empowering the local level in order to achieve decentralization of coastal management. For example, the EEAA, as the lead agency for ICZM in Egypt, signed, in September 1993, an “*Agreement on the Implementation of the CAMP Fuka-Matrouh*”. One of the main appointed tasks assigned to the EEAA within this agreement, was to coordinate this local ICZM project (El-Raey 1999a). However, the EEAA as a lead agency, but from central government, was not able to fulfil this role of leadership at the local level and was not able to clearly identify the end-users. They were not involved with the design of the project (Trumbic et al. 1999). Thus the project did not reflect people’s real needs and preferences (IH Cantabria 2007). In this regard one of the interviewees “*To have an effective ICZM, especially at the local level, participation of local stakeholders is a must. Unfortunately in Fuka-Matrouh project this was not the case. The project was prepared in Cairo without any participation from the local actors*” (Interview No.21 2009).

Again, the same scenario has continued in the second phase of ICZM. For instance, the EEAA, by collaborating with IH Cantabria, initiated the MSICZM project in 2006 (IH Cantabria 2007). In fact, based on the MSICZMP documents and the interviewees responses, it is clear that the project was prepared in Cairo as a high

centralized technical process without any participation from the RBO on the north-west coast or the EMU in the Matrouh Governorate (IH Cantabria 2007; Interview No.12 2007; Interview No.30 2009). Furthermore, the local stakeholders were not also involved. In that respect, one of the interviewees stressed that “*The MSICZM was initiated by the leadership of the EEAA in Cairo, without any participation from the local stakeholders*” (Interview No.40 2009).

Another example is illustrated through the Port Said project which was initiated by two central Egyptian partners, IAS in Cairo and the University of El-Zagazig in Al-Sharkia Governorate and two international partners, without any participation from the local stakeholders in the Port Said Governorate (IAS 2008; SMAP 2006, 2008b).

On the other hand, the ALAMIM project gives a good example of decentralization. Indeed, to prepare the proposal for this project, MEDCITIES and CEDARE conducted a number of preparatory visits to Alexandria to meet with the high officials at the Governorate of Alexandria, the RBO and EMU in Alexandria in order to discuss the actual needs and requirements to be included in this project (ALAMIM Team 2007; El-Refaie & Ragué 2009; Parpal 2006).<sup>37</sup>

To conclude, there are few on-going efforts within the context of decentralization of the environmental management. However, Egypt in general still suffers from high level of centralization and all the decrees and good intentions towards decentralization need to be practised in reality. Further to this, the local stakeholders, including the RBOs and EMUs, have limited capacity to provide effective decentralized services and manage their coastal zone. However, the focal actor has not taken any effective steps to empower the local stakeholders to develop and manage ICZM initiatives in practice.

## 8-8 Synthesis

In the previous sections, the Egyptian ICZM initiatives have been evaluated against the conceptual framework. This section is based on the conclusion of that analysis

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<sup>37</sup> This example has been discussed before in the stakeholder involvement section (8-5-2) and also in the integration section (8-6)

and extracts the potentials and constraints that should be considered in any future ICZM initiatives.

### **8-8-1 Potentials**

The evaluation of the ICZM policy and practice in Egypt revealed some potentials for future implementation. Firstly ICZM initiatives are beginning to appear in Egypt which is promising. There is an appreciation of the role of the lead agency by the coastal stakeholders and the importance of an appropriate legal framework. There is a national network, NCICZM, containing almost all the concerned ministries necessary to achieve horizontal integration at the national scale.

Furthermore there are quite a number of positive and recently-developed instruments in place upon which further ICZM initiatives could be developed, in particular the draft of the national ICZM strategy and the local ICZM projects. Several international agencies have also supported the country in this task. Moreover the need to build the capacity in the field of ICZM has been assessed and highlighted in many reports assessing Egyptian environmental management capacity. In other words, the problems of a lack of capacity in the field of ICZM have been clearly delineated and can be used as a base to enhance the capacity in the future.

Finally the experience from ALAMIM provides a good ICZM example at the local level that could be use as a benchmark for future local initiatives.

### **8-8-2 Constraints**

The evaluation of the ICZM policy and practice in Egypt revealed many constraints.

*Using top-down approach:* It can be concluded from the analysis that a top-down approach in coastal management initiatives rather than a bottom-up or balanced approach still predominates. This is despite the fact that it has been argued that the top-down approach is not appropriate for ICZM as it is an obstacle to setting up a sustainable ICZM process.

*Lack of capacity:* The capacity for the focal actor, the EEAA, and all its branches i.e. the RBOs and the EMUs to carry out basic ICZM activities is still a challenge. Furthermore the local-level actors have no or very little knowledge about ICZM. In other words, there is a great need for more qualified staff in the field of ICZM to join all the concerned stakeholders at all levels. However, the methods used for building

capacity in the field of ICZM in both phases were *ad hoc*, not structured, and lacked continuity. For instance in most of the local ICZM initiatives the policy towards building the capacity was based on expediency, it depended on hiring new staff for a short period and improving their capacity in order to accomplish the specific project. It did not build the capacity of the local partners permanent staff.

*Inadequate legal framework:* There is no separate legislation, in Egypt, covering only the coastal zone issues. Many other sectoral acts and regulations are in force in coastal areas dealing with a variety of activities. However, there is a lack of coordination and consistency in implementing these various legal provisions.

*Inadequate enforcement of any environment-related laws:* Egyptian practice in relation to the enforcement of any environmental related laws is very inadequate and when the law is enforced very weak penalties are applied on the violator.

*Fragmentation of responsibilities at national and local levels:* It is clear that coastal management in Egypt is being carried out on a sectoral basis. The EEAA has the formal leadership according to the law. Nonetheless, no active institutional arrangement for coastal management exists for coordination between all coastal actors at all levels. Moreover there is an overlap between the authorities' mandates and responsibilities starting from the national level down to the local level.

*No adequate financial resources are being allocated on a sustainable basis for full implementation of the ICZM:* The Egyptian ICZM initiatives have failed to generate sufficient government resources for effective implementation. This has led to dependence on donor funds, which are still the main source of financing for initiating ICZM in Egypt. This funding is only available for the research and planning phases of ICZM.

*Lack of public participation:* ICZM initiatives in Egypt largely ignored public participation. In fact this can be described as the sustained trend of the local Egyptian ICZM initiatives, which rarely engage in public participation, and when they do, it is just a passive participation. Furthermore, engaging the public to participate in the ICZM process is hard as a direct result of their lack of awareness about environmental issues. However, there is no evidence that the EEAA as a focal actor in ICZM has used any initiative or mechanism to try to enhance public awareness.

*Lack of stakeholder involvement:* ICZM is still suffering from taking of unilateral decisions and a lack of participation and contribution by stakeholders. For instance most stakeholders are underutilized in coastal management projects. The reason for this is the absence of a clear stakeholder analysis, which has not taken place in most of the ICZM initiatives at both the national and the local levels. In addition there is a lack of any effective mechanism to stimulate stakeholders' participation and gain from their involvement.

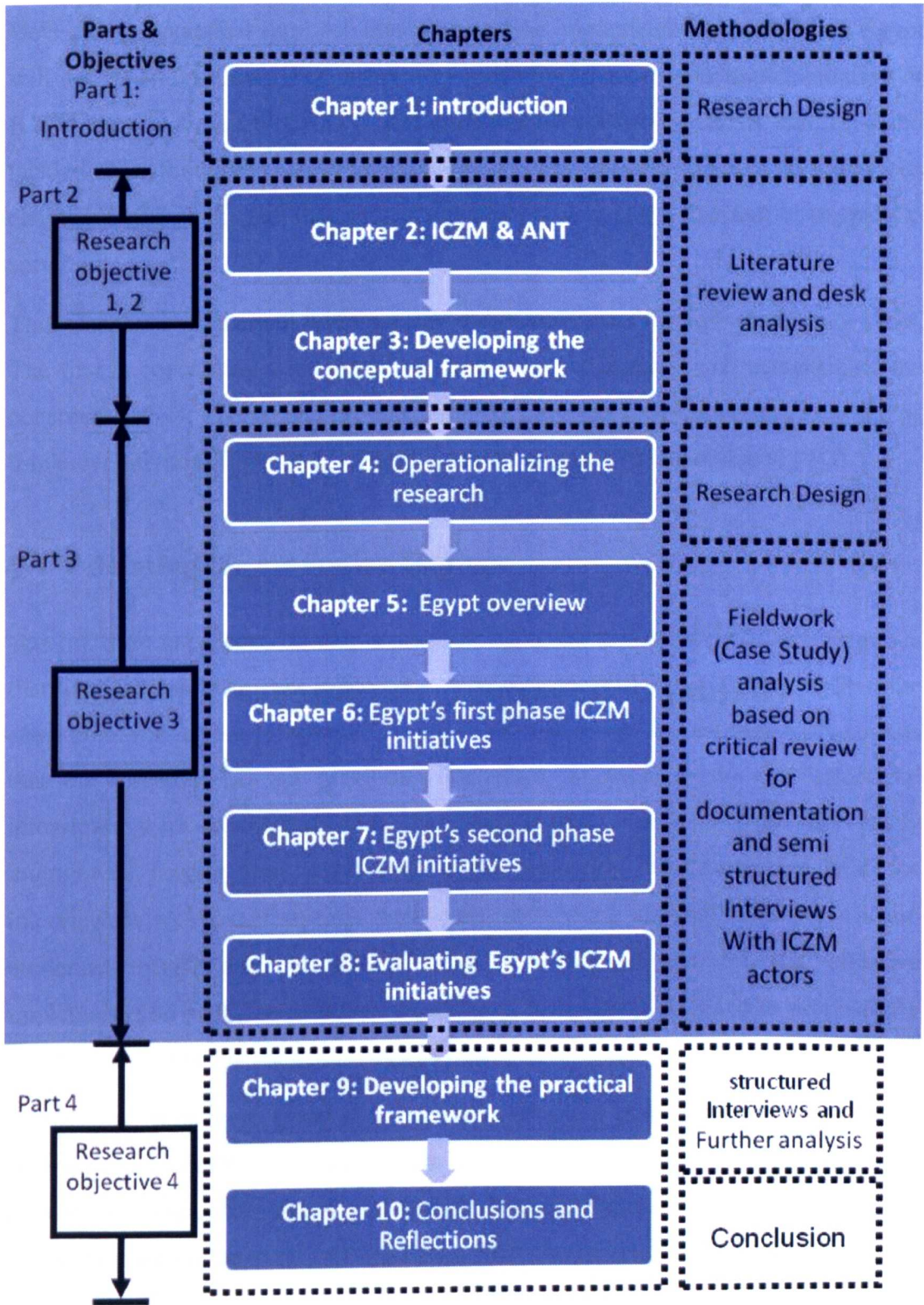
*Lack of integration:* Egypt is suffering from lack of integration in the field of coastal management in all dimensions. The reason for this being that there is no effective integration mechanism between all concerned parties at any level. Furthermore, most of the ICZM local projects, in both phases, failed to create local networks that could enhance the integration between stakeholders and ensure that the proposed ICZM plans could be implemented in a sustainable manner.

*Centralization:* Egypt in general still suffers from centralization and all the decrees and good intentions towards decentralization need to be practised in reality.

*Lack of considering lessons from past initiatives:* It is clearly illustrated from the analysis of ICZM policy and practice in both phases that Egypt embarked on the second phase ICZM initiatives without considering the lessons from past initiatives and many of the same mistakes have been repeated.

In conclusion, it is not surprising that implementing effective ICZM in Egypt has proved to be problematic and many constraints have been revealed. In fact, for Egypt, like most developing countries, development is a priority over environmental protection and sustainability. Although it is possible to achieve both, the way in which development is pursued often contradicts environmental interests. Reconciling the demands of economic development, tourism and recreation, while protecting the resources upon which these activities rely, is a challenge that planners and managers must face. Furthermore, there are numerous stakeholders involved in the development of coastal zones, each with different agendas and often with conflicting goals. Thus, developing a practical approach that enhances the implementation of ICZM is necessary to overcome the obstacles found during ICZM implementation.

## Part four: Developing the practical approach



## **Chapter 9: Developing the practical approach**

## **9- Developing the practical approach**

Developing a practical approach that enhances the implementation of ICZM in Egypt will not be an easy task. For instance to move into a successful implementation of ICZM, the constraints blocking ICZM effectiveness need to be clearly identified and tackled. The first part, identifying the constraints, has been done in the previous chapters based on the fact that understanding a problem is the first half of the path to solving it.

This Chapter is concerned with tackling these constraints through three main steps. The first is concerning with validating the evaluation findings and categorizing the constraints (9-1). The second presents real recommendations that enhance the ICZM implementation in Egypt (9-2). Finally a practical approach is developed (9-3).

### **9-1 Validating the evaluation findings**

The first step in order to develop a practical approach is to identify if the constraints that were exposed from the evaluation of the Egyptian ICZM initiatives against the conceptual framework (chapter 8) are valid and if there are any additional constraints that the research had not previously identified. In order to do this, structured interviews were conducted with the interviewees, who had been previously interviewed, to gain their opinions about the constraints. To be more specific, the interviewees were asked to rank these constraints using fourfold scale (significant, moderate, trivial and no effect) based on their impact on the effective implementation of ICZM in Egypt. In addition, they were also asked to propose any further constraints that they felt could have an effect on ICZM implementation.<sup>38</sup>

The results from these structured interviews revealed that all the constraints that were exposed from the evaluation of the Egyptian ICZM initiatives were valid. The respondents when were asked to categorize the constraints they did not select the fourth element on the scale (the constraint has no effect on ICZM implementation).

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<sup>38</sup> For further information see Annex 4: The structured interview questions



Furthermore, no additional constraints were suggested by the interviewees that the research had not previously identified.

The overall pattern of constraints implications on ICZM performance suggests three main groups of constraints, as given in Table 9-1.

Table 9-1 The ICZM constraints based on interviewees' responses

Groups	Constraints	% of the interviewees' responses (total 40 interviewees)		
		Significant	Moderate	Trivial
Significant effect on ICZM implementation	Lack of integration	80	15	5
	Fragmentation of responsibilities at national and local levels	70	20	10
	Lack of stakeholder involvement	70	17.5	12.5
	Lack of considering lessons from past initiatives	65	30	5
Moderate effect on ICZM implementation	Using top-down approach	20	65	15
	Lack of capacity	25	60	15
	Inadequate enforcement of the environment-related laws	10	60	30
	Inadequate financial resources	12.5	57.5	30
Trivial effect on ICZM implementation	Inadequate legal framework	12.5	17.5	70
	Centralization	15	30	55
	Lack of public participation	17.5	27.5	55

The first group of constraints were based on the majority of respondents identifying these constraints have a significant impact on ICZM implementation. This group includes lack of integration which was identified by 80% of the respondents. Approximately 70% of the interviewees identified both fragmentation of responsibilities at national and local levels, as well as lack of stakeholder involvement as significant constraints. 65% identified the lack of considering lessons from past initiatives as significant constraint. These four constraints are related to the interaction and networking between actors, and are perceived as the major issues that need to be overcome if ICZM is ever to be implemented effectively in Egypt.

The second group of constraints identified was based on the majority of respondents deciding that these constraints have had a moderate impact on ICZM implementation. This group also includes four constraints. 65% of the interviewees identified the use of top-down approach; 60% identified either a lack of capacity or inadequate enforcement of the environment-related laws; and finally 57.5% of the interviewees identified inadequate financial resources as a moderate constraint affecting the effective implementation of ICZM.

The third group of constraints identified were based on the majority of respondents who decided that these constraints would have a relatively trivial impact on the effective ICZM implementation. This group includes three constraints. Centralization and lack of public participation were identified by 55% of the interviewees; 70% identified inadequate legal framework as constraints have trivial impacts on ICZM effective implementation.

To conclude although the three constraints in the last group were common issues that needed to be addressed, there was clear consensus that they were relatively trivial in comparison to other constraints affecting the ICZM effective implementation in Egypt. This would suggest that constraints such as those in the first group would or could have a far greater impact on the ability to effectively implement ICZM. This categorization of constraints were therefore used to gain real recommendations and as the base to suggest some practical steps to better implementation.

## **9-2 Recommendations**

This section is concerned with presenting real recommendations that have been gained from the structure interviews. In other words the interviewees were invited to suggest possible solution(s) to enhance more effective ICZM implementation in Egypt based on their feedback about the constraints. These proposed solutions have been classified by the researcher and could be summarised as:

- Egypt needs to develop a proper framework to enable the coordination of different sectors and different stakeholders at different levels by using a balanced approach instead of a top-down approach.
- Egypt needs to establish an ICZM coordinating bodies at all levels of governance.
- At the national level the creation of a technical sub-committee, which would include experts and managers from all the concerned coastal stakeholders, could work to help the NCICZM to perform its role.
- Relevant stakeholders should be defined through an appropriate stakeholder analysis.

- All ICZM proposals should be prioritized by the coordinating bodies on all levels which should have a supervisory role over all coastal projects.
- Institutional and administrative capacity should be strengthened, in particular with regards to implementation and enforcement mechanisms.
- Egypt needs to provide guidance and develop human capacity through education and training.
- Project development and delivery should be based on existing staffing and enhancing their capabilities rather than hiring significant numbers of additional staff for a short period of time.
- The government should be prepared to use local resources and utilise any type of the economic instruments, particularly Public Private Partnerships (PPP), Private Sector Funds, and Investment Funds to carry out ICZM projects in the future.
- There is need to actively involve local communities, NGOs, politicians, people from the media, and judiciary in the process. This will enhance and raise the awareness about coastal management issues.

Based on these recommendations the research now will turn to translating these ideas into practical approach.

### **9-3 Developing the practical approach**

Translating the interviewees responses about enhancing the effectiveness of implementing ICZM initiatives in Egypt requires the development of an approach that will enable the coordination of different sectors and different stakeholders at different levels of governance. This requires creating ICZM coordinating bodies at all levels (national, regional and local) that will use a balanced approach instead of a top-down approach to ICZM implementation. These coordinating bodies should include all the coastal actors based on a stakeholder analysis. Furthermore these coordinating bodies will also engage the local communities, NGOs, politicians, people from the media, and judiciary in a process which will enhance and raise their individual and collective awareness about ICZM issues. Moreover these coordinating bodies at all levels should have a supervisory role over all coastal projects. This will

ensure that all the projects be based on existing capacity and staffing in order to enhance the capacity of the coastal actors at all levels. Above all these coordinating bodies will be prepared to use local resources and any type of the economic instrument, including Public Private Partnerships (PPP), Private Sector Funds, and Investment Funds in order to carry out future ICZM projects. Furthermore any fund from international donors will be accommodated in order to suit the coordinating bodies priorities and agenda.

This section is divided into three subsections: the first defines the practical framework (9-3-1); the second clarifies the practical framework structure (9-3-2), and finally the practical framework phases, which define how the framework can be implemented in reality are identified (9-3-3).

### **9-3-1 The practical approach definition**

The Actor Network Coastal Zone Management (ANCZM) framework is a practical approach based on an evaluation of the Egyptian ICZM initiatives. This is a framework in which logical decisions will be made concerning the conservation and sustainable use of coastal resources and space. It is oriented towards enhancing the implementation of ICZM in Egypt through effective participation and collaboration of relevant ministries and other stakeholders in the preparation and implementation of ICZM at all levels, i.e. national, regional and local levels. The framework is dynamic and designed to involve all the interested actors and stakeholders. This means overcoming the fragmentation inherent in single-sector management approaches, and the splits in jurisdiction between different levels of government, and the land–water interface. The execution of this framework is based on implementing coordination methodologies and tools to ensure interactive participation and collaboration between stakeholders.

The ANCZM contains all interested actors including the main actor, the focal actor (FA), who is an actor that plays the role of coordination between actors, and who may represent the original network in other networks, e.g. the representative of the local network who participates in a regional network.

### 9-3-2 The practical approach structure

The practical approach is built up from all relevant parties that are concerned with the ICZM process. It combines one national level network (National Committee), a number of regional level networks (in the case of Egypt there are two), and a greater number of local level networks depending on the number of local coastal governorates (in the case of Egypt there are eleven). Figure 9-1 shows the proposed framework structure for Egypt and how it is built up from local networks and regional networks in addition to the two-way links between the networks.

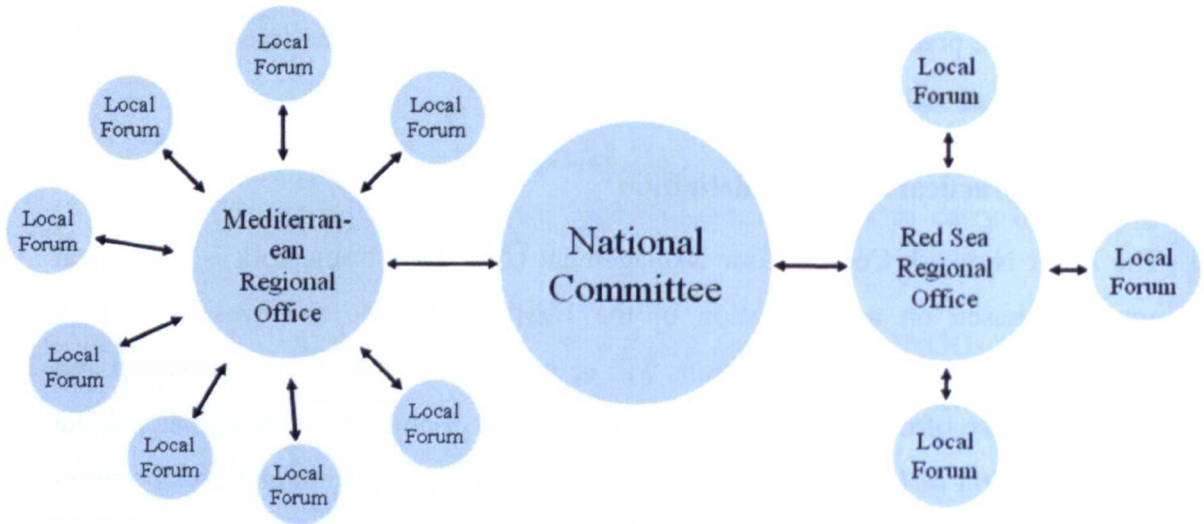


Figure 9-1 The proposed framework structure for Egypt

The significant functions of these networks at all levels are to ensure that all relevant coastal actors are involved in the ICZM process and coordination between actors is facilitated. Furthermore these coordinating bodies should ensure that financial resources are available to implement an effective ICZM process using local resources and any type of appropriate economic instrument.

Now the research will turn to identify each level of the coordinating bodies.

#### National committee

The national committee is the first level of the network and combines relevant authorities, in addition to actors from parliament, the environment authority, research centres, the judiciary and national NGOs, as well as the representatives of the

regional networks. Figure 9-2 shows the national committee structure. In other words, it is a national network with an environmental authority as FA.<sup>39</sup>

The actors from parliament and judiciary are enrolled in this network in order to raise their awareness about coastal issues and the importance of ICZM. Furthermore engaging those actors in ICZM process will help in implementing environmental related laws and help to update these laws when any new issue are raised. The actors from research centres can join this network in order to create a cooperating group of scientists and officials in Egypt as the backbone for planning and implementation. The representatives of the regional offices are integrated into this network in order to ensure integration between the national strategy and regional policies and to facilitate a balanced approach in making and taking the decisions.

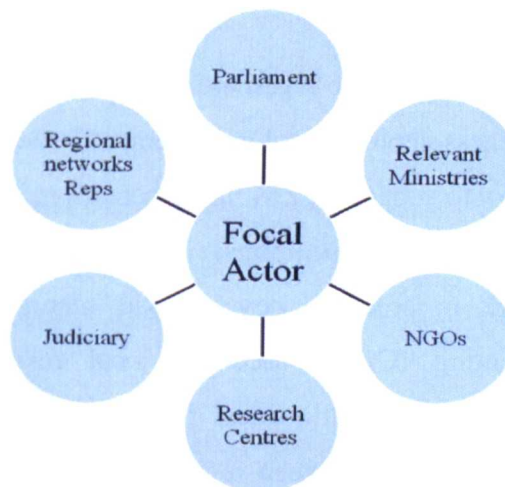


Figure 9-2 The national committee structure

### Regional offices

The regional office is the second level of the network. It combines regional authorities in addition to actors drawn from politicians, the media, private sector representatives, financial institutions, regional research centres and regional NGOs, as well as representatives of the local forums. Figure 9-3 shows the potential regional network structure.

<sup>39</sup>This specifically applied to Egypt as the environmental law assigns the role of the lead agency in coastal management to the EEAA. However, this could be changed in other countries and could depend on other actors nominating the focal actor.



Figure 9-3 The regional office structure

Actors from politicians, media and the regional NGOs are engaged in this network in order to raise their awareness about coastal management issues and to try to increase the political will necessary to support ICZM implementation. The actors from private sector representatives, financial institutions, and regional research centres are enrolled in this network in order to develop and secure sustainable financial resources for implementing ICZM based on local resources and economic instruments. The representatives of the local forums would be registered in this network to ensure the integration between regional policies and local programmes and projects as well as to facilitate a balanced approach in making and taking the decisions.

The focal actor of this network could be the RBO or could be nominated by the regional stakeholders. In the case of Egypt, there is only a need for two regional offices, one for the Red Sea coastal zone and the other for the Mediterranean coastal zone, in order to harmonize local ICZM programmes.

### Local forum

The local forum is the third level of networks that combines actors from local governance, the private sector, and local communities and groups. Figure 9-4 shows the local forum structure.

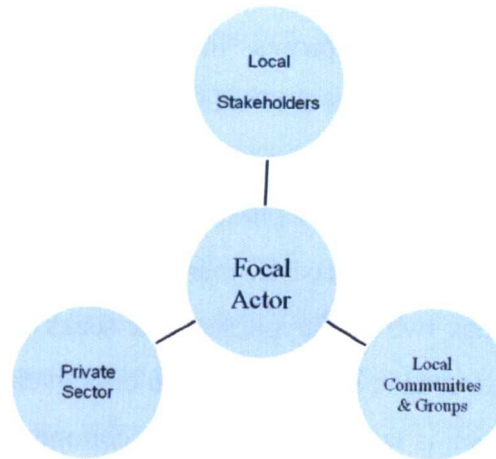


Figure 9-4 The local forum structure

The actors from the private sector, and local communities groups are engaged in this network in order to raise their awareness about ICZM and to develop and secure sustainable financial resources for implementing ICZM based on the local resources and locally determined economic instruments.

The focal actor of this network could be the governorate or could be nominated by the local stakeholders. In the case of Egypt, there is a need for three local forums for the Red Sea coastal zone and eight for the Mediterranean coastal zone, that is, one in each coastal governorate.

To conclude the framework structure developed based on formal designation of one of the line agencies or ministries, the EEAA, to act as “lead agency” and to oversee an interagency coordination process. Furthermore it contains a national committee, the NCICZM, which is a formal establishment of an interagency or inter-ministerial council in addition to other national stakeholders. Moreover it is based on the creation of two special coordinating commissions or committees working at the regional level, which are the regional offices, i.e. one for the Red Sea coastal zone and the other for the Mediterranean coastal zone. Finally it combines coastal coordinating committees working at the local level, the coastal governorate, which are the local forums, i.e. three local forums for the Red Sea coastal zone and eight for the Mediterranean coastal zone.



### 9-3-3 ANCZM phases

It emerged from evaluation of ICZM process in Egypt, the interviewees responses about the significance of the constraints and their recommendations for future ICZM developments that any future processes for ICZM in Egypt should adopt a phased approach. Figure 9-5 shows the ANCZM phases. In fact, some stages and steps are common to the majority of integrated coastal management procedures; however, the ANCZM framework pursues two initial phases that seeks to create the enabling conditions that will achieve a stable network that can effectively apply ICZM, before starting the third phase which is largely based on the common procedures of ICZM. Furthermore, after the ANCZM reaches the third phase and starts processing ICZM, the network can be re-evaluated and another stakeholder analysis run again to preserve legitimacy and the stability of the network and ensure the continuity of cooperation and coordination during and after implementation. To be more specific, it is an iterative process that has three main phases as follows:

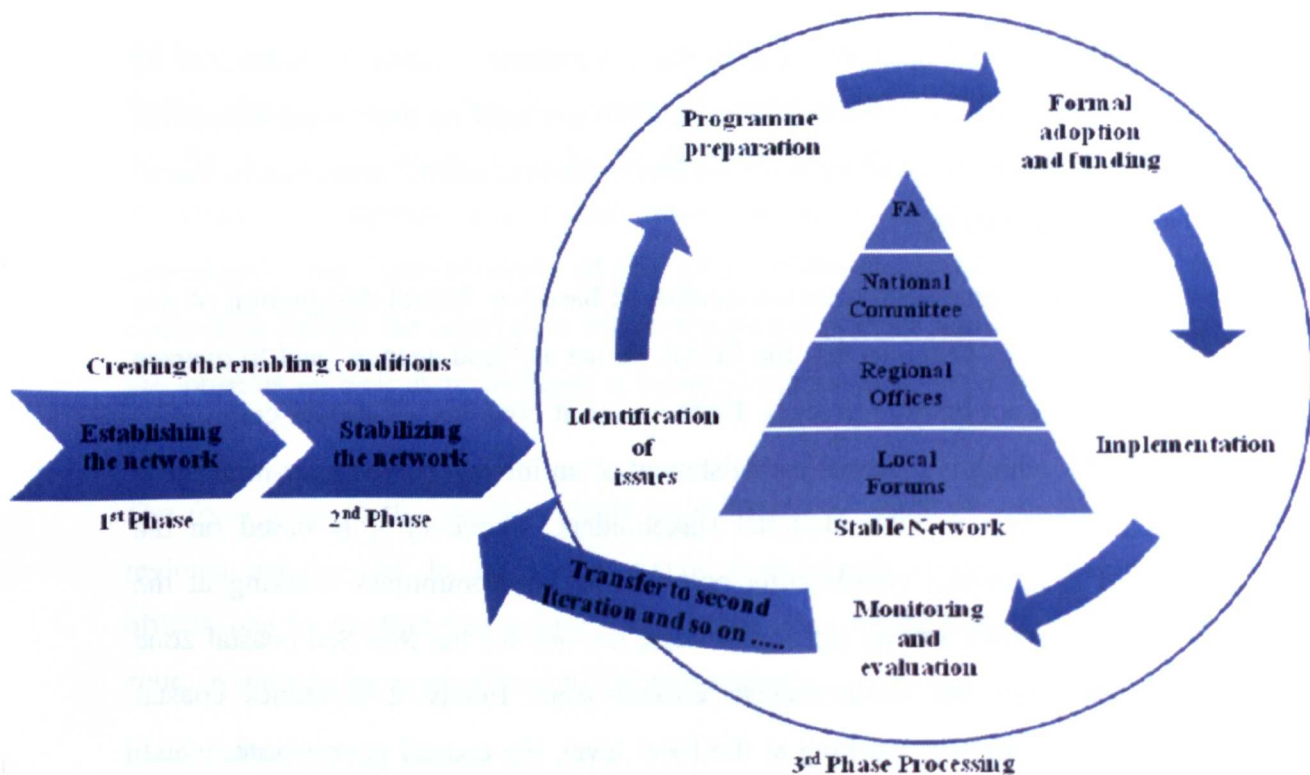


Figure 9-5 ANCZM phases

### **Establishing the network**

The first phase outcomes are concerned with the construction of the enabling conditions that set the stage for the implementation of an ICZM initiative. This phase contains several steps that may be applied in parallel. Firstly the EEAA as the focal actor starts to enhance the national network through stakeholder analysis in order to involve any unrepresented interested actors (e.g. member from the National Centre for Planning State Land Uses) and other actors from parliament, judiciary as well as actors from research centres. In the meantime the focal actor (EEAA) with support from international donors, who are still interested in developing and implementing ICZM in Egypt, raises its own capacity and its regional and local branches capacity to implement ICZM. The EEAA in this phase also works to raise the awareness of parliamentary and private sectors actors about the importance of ICZM. This could happen through the media in order to gain political will and establish a private partnership that will support effective ICZM implementation.

Furthermore the RBOs and the EMUs, with support from the EEAA, conduct a stakeholder analysis in order to build the regional and local networks. These networks contain all the actors that have been previously mentioned.

The conclusion from this phase is the founding of a coastal management network which includes all levels of networks. This also means that institutional arrangements have been created intentionally in order to tackle significant constraints.

### **Stabilizing the network**

The second phase of this process is stabilizing the network. This can only happen when the network assigns its focal actor and defines the role of each actor in the network. Through this phase, the local forum should assign its focal actor and its representative to the regional network. In the same way, the regional office will do the same assign its focal actor and its representative to the national network. This means that there is a significant link between all levels of networks based on a balanced approach which will ensure vertical integration. It also means that low level networks will be involved in the decision-making process of the higher level networks and adequately informed on expected results.

In this phase each network, at all levels, starts to address their actors lack of capacity to effectively implement ICZM. This should be tackled by using a combination of local resources, economic instruments and support from international donors.

### **Processing**

In this phase the ANCZM network should be stabilized and ready to implement ICZM based on the local resources, private partnership and political support. In this phase each actor starts to perform their roles as assigned in the previous phases. Furthermore, a stable network with all its actors engaged can start to solve the coastal zone problems and plan for the future by following an ICZM process, which is:

- Identification of issues
- Programme preparation
- Formal adoption and funding
- Implementation
- Monitoring and evaluation.

This will happen through a dialogue between all actors from local forums to national committees through the regional offices. This discussion will adopt a combination of two approaches – a top-down approach and a bottom-up approach.

In conclusion, this thesis evaluated ICZM in Egypt using ANT approach which is useful in understanding why planning and management endeavours succeed or fail, as a direct result of network integrity, recognizing the important role assigned to the focal actor. The analysis findings, particularly the ICZM constraints, were validated and categorized based on coastal management actors responses. Furthermore, the actors were invited to give their recommendations about how to tackle these constraints. These responses including the categorised constraints and the recommendations provided the basis to create and modify ANCZM framework in which all the actors agree that the network is worth building and defending. This proposed framework suggests that all stakeholders are involved from the beginning and participate adequately in decision making. In addition, it provides a mechanism to ensure the continuity of cooperation and coordination during and after implementation. Finally as stated before, it is an iterative process that has three main

phases. After the first round of processing, both the significant and the moderate constraints would be tackled. Then the second round of processing will deal with the trivial constraints.

## **Chapter 10: Conclusions and Reflections**

## **10- Conclusions and Reflections**

This chapter presents the final conclusions generated from the thesis. The chapter has three significant parts. The first reflects on the research context and establishes the research niche that the research fills and the original contribution of the research. Second, it establishes the final conclusion of the thesis, discussing the theoretical and empirical research findings against the research aim and objectives. The last part discusses a potential future research direction in relation to exploring the effectiveness of ICZM implementation.

### **10-1 research context revisited**

During the past three decades, in response to existing problems of coastal zones, many countries have introduced policies and programmes to try to manage these critical assets. Subsequently, ICZM now forms part of the strategy of the International Union for the Conservation of Nature and Natural Resources, and has been adopted as a policy priority by such international bodies as the World Bank, the United Nations Environment Programme, and many national governments and agencies. Like many other forms of spatial or collaborative planning and development, ICZM holds the promise of being a vehicle for progressing towards sustainable development based on a participatory process that involves all stakeholders (Christie 2005; Lane 2006). In other words ICZM is a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones through the participation of all relevant actors. Thus, the success of ICZM depends on building a network containing all the interested actors. However, applying ICZM is always difficult, especially in developing countries that suffer from highly centralized systems of governance and a lack of effective public and stakeholder participation at all levels of governance (Caffyn & Jobbins 2003; Hale et al. 2000; Olsen, Lowry & Tobey 1999). Furthermore, many of the evaluations that have been undertaken advocating the adoption of ICZM have been undertaken within the context of developed countries (Belfiore et al. 2006). As a result, there are gaps in the literature in the ICZM field for evaluating the nature of the governance system in developing countries in considering why many ICZM programmes have failed

(Caffyn & Jobbins 2003). Furthermore, there is no evidence that ICZM is grounded in a theoretical concept that allows for the exploration of the relationship between various actors to create or modify a network in which all the actors (individuals, agencies and authorities) agree that the network is worth building and defending. This thesis has begun to address these gaps in the evaluation of ICZM as a network in developing countries and starts off by suggesting that ANT is an appropriate analytical framework to evaluate the ICZM initiatives. For instance, the main idea behind using ANT for exploring ICZM in developing countries is that it is useful in understanding why planning and management endeavours succeed or fail, as a direct result of network integrity, recognizing the important role assigned to the focal actor (McLaren Loring 2007).

In fact, after conducting the research and evaluating ICZM initiatives based on the ANT perspective, it can be argued that ANT has proven to be an appropriate analytical framework for ICZM evaluation. The reason for this is that the findings from the analysis, particularly the ICZM constraints, have been validated by the Egyptian ICZM actors themselves (section 9-1).

Originality and value was added to the thesis through the research methodology employed. The empirical research was facilitated using a qualitative case study research considering all the ICZM initiatives in Egypt at both levels (national and local) and in both phases of implementation (before and after 2005). Additionally, in an effort to limit personal and methodological biases, cross-checking, that is looking at a phenomenon or research question from multiple perspectives and sources of data, was used wherever possible. In this regard, whenever possible, qualitative data resulting from interviews was cross-checked against findings from other sources such as academic literature and official documents. Furthermore, Berg (2007) highlighted that cross-checking has been proposed as a means for improving credibility (how truthful are the findings). In this regard, a structured interview approach was selected in the third phase of data collection to be conducted with the same interviewees as the previous two phases of data collection in an attempt to validate the research findings. In fact, the interviewees were asked whether all the constraints that were revealed from the evaluation of ICZM initiatives were valid and whether there were any more constraints that the research had not considered.

Furthermore, it should also be noted that there is no specific stocktake of ICZM initiatives in Egypt that identifies examples of good or poor practice. This research contributed to ICZM in Egypt by documenting all the ICZM initiatives in Egypt and analysing them against the conceptual framework in order to define the potentials and constraints that should be considered in future ICZM initiatives. Furthermore it presents real recommendations from coastal management actors that could enhance the ICZM implementation in Egypt (section 9-2)

Above all, the research also developed a practical approach that enhances ICZM implementation (Section 9-3). This proposed framework strongly recommends that all stakeholders should be involved from the beginning and participate adequately in decision-making processes. In addition, it provides a mechanism to ensure the continuity of co-operation and co-ordination during and after implementation.

## **10-2 Conclusions**

The principal aim of the research was to build a practical approach that enhances ICZM implementation in countries with highly centralized governance systems and a deficit of stakeholder involvement and public participation based on the factors that affect ICZM effectiveness and the contribution of ANT. It is argued that the thesis has successfully achieved this central aim.

In support of the principal aim, four substantive objectives were defined:

To understand the complex process and decision-making context of ICZM. This objective was addressed in chapter two.

To understand how various actors are involved in integrated coastal zone management. This objective was addressed in chapters two and three.

To evaluate Egypt's ICZM policy and practice against the conceptual framework. This objective was addressed in chapters four, five, six, seven and eight.

To develop a practical approach (ANCZM) that can be applied to Egypt and for wider applications. This objective was addressed in chapter nine.



### 10-2-1 Research objectives one and two: Theoretical Framework

In order to fully address objectives one and two, a range of literature was reviewed in relation to ICZM and ANT (chapters two and three). Discussion focused upon ICZM as a tool of effective planning and management for coastal zones. The literature further explored the nature of the ICZM process and the principles of best practice (section 2-1). Then ICZM in developing countries was explored (section 2-2). Through investigating ICZM, it was evident that the ICZM process is a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones through the participation of all relevant actors. Thus, the success of ICZM depends on achieving integration between actors. However, achieving successful ICZM is complex, especially in developing countries (CoastNet 2008). Therefore, ICZM needs an analytical approach that investigates the complex composition of ICZM as a network and seeks to understand how that network gains its strength and how it achieves its scope, in order to understand why many ICZM programmes, particularly in developing countries, have failed to develop a practical approach that enhances implementation.

In order to address this issue, ANT was suggested as it provides analytical tools for explaining and investigating the process by which networks are created, how the networks gain their strength and how they achieve their objectives. Consequently analysing ICZM based on the ANT approach means analysing the strategy of the focal actor to initiate and process the network (*ICZM approach*), the capacity of the focal actor and other actors to manage their network (*capacity development*), the *intermediaries* between the actors to establish and run their network (*legal framework and institutional arrangements* as well as the *financial resources*), and *networking*, the interaction between actors in the network (*participation, integration, and decentralization*) (section 2-4). These factors are considered as the factors that affect ICZM effectiveness (the factors that measure whether ICZM as a network can achieve its objectives or not).

Chapter three went onto consider the effectiveness factors as follow:

*ICZM approaches* were explored (section 3-1) and based on the literature review it was evident that ICZM initiatives can be initiated by using either the top-down or the bottom-up approach. However, thereafter the ICZM process should be based on

merging the top-down approach with the bottom-up approach in order to both strengthen and to achieve stability in the network (Belfiore et al. 2006).

*Capacity development* and its significant role in enhancing the implementation of ICZM was investigated (section 3-2). This section was concluded that capacity building remains a critical need for initiating and implementing ICZM and it should be based on a network approach in order to produce and exchange training materials and personnel, thus avoiding duplication of efforts, while at the same time, promoting synergy, increasing cost-effectiveness and creating permanent capacity at the national and local level (Stella Maris 2001).

A discussion of the significant functions of *intermediaries* in the network containing the legal framework, the institutional arrangements and the financial resources took place (sections 3-3 and 3-4). For instance reviewing the literature in relation to the importance of the legal framework in implementing effective ICZM revealed that due to the comprehensiveness and complexity of the structure of ICZM, it needs to be soundly equipped with a legislative basis and arrangements that are mutually consistent which assist rather than hinder the administrative process. Furthermore, the legal framework should be straightforward to enforce updating of the mechanism in response to emerging issues.

Furthermore exploring the role of the institutional arrangements in applying effective ICZM disclosed that institutional arrangements are needed to support the integration and implementation of ICZM. They are the criteria for decision making in ICZM. Thus, the institutional context should define clearly which actor is responsible for what.

Moreover discussing the importance of the financial resources in applying effective ICZM presented that it is crucial to the success and continued implementation of an ICZM programme to create the financial resources that are necessary, not only to initiate and develop the ICZM programme, but also to sustain the management activities that are important to achieving the programme's long-term operation and management objectives.

*The interaction between actors* (networking) was explored including participation, nature of integration in ICZM and decentralization (sections 3-5, 3-6 and 3-7). For instance the role of the stakeholder involvement and the public participation in ICZM

were discussed and revealed that insufficient participation and consultation of all relevant actors is often one of the reasons for inadequate coastal management as well as for the further degradation of the coastal environment. To be more specific, all phases of a coastal zone management programme must be broadly participatory, with the majority of the initiatives originating from the stakeholders by having a broad representation of stakeholders in the various phases of ICZM.

Furthermore the nature of integration in ICZM was explored and concluded by highlighting that integration is a fundamental element in ICZM. In addition, achieving ICZM is based on the many dimensions of integration that need to be addressed by arranging and organizing actors, establishing incentives and parameters for their behaviour, and creating circumstances for collaboration (Lane 2006).

Moreover exploring decentralization as a factor that affect ICZM implementation disclosed that decentralization of responsibility coincides well with a participatory approach to the planning and management of coastal areas and will not succeed unless national government has provided enabling conditions to the local level on how to properly exercise the delegated functions and responsibilities.

Finally, the conceptual framework was developed clarifying how the factors that affect ICZM effectiveness could be measured in order to investigate and evaluate the ICZM initiatives (Figure 3-1).

### **10-2-2 Research objective three: Empirical Investigation**

Research objective three was addressed through an intensive empirical investigation of ICZM initiatives in Egypt. The conceptual framework was used as a reference point for the data collection and analysis. Analysis of Egypt's first and second phases' problems, gaps, limitations and opportunities in view of ICZM at national and local levels was the entry point to define potentials and constraints.

In investigating Egypt's context before embarking on reviewing its ICZM initiatives and analysing these initiatives, it was evident that the institutional arrangements and the legal frameworks for environmental and coastal management in Egypt are complex and fragmented based around sectorial responsibilities.

The research then turned to investigate the ICZM first and second phases initiatives in Egypt. This investigation revealed that since the mid 1990s, after the preparation

of the National ICZM framework, until the end of the first phase, no substantial initiatives were taken to implement ICZM in Egypt, except for a few uncoordinated sporadic ICZM projects sponsored mainly by foreign aid. Furthermore, since 2005 three new local projects have been started supported by international donors. The purpose of these projects was to formulate local ICZM plans for parts of Egypt's Mediterranean coast under intense pressure.

It has also been noted that the National ICZM Committee has not been active most of the time. Furthermore, although priority issues in ICZM are documented, the National ICZM Plan has not been finalized and management actions are lacking. The local ICZM plans that have been prepared to date have been largely as a result of donor-funded projects.

The thesis examined the previous initiatives against the conceptual framework and revealed that the achievements towards sustainable ICZM in Egypt proved to be problematic and revealed many constraints. The evidence from the evaluation of ICZM initiatives against the conceptual framework highlighted that Egypt embarked on the second phase of ICZM without consideration of the lessons from the first phase. By this is meant that almost all the shortages of ICZM effectiveness implementation in the first phase was repeated in the second phase.

Furthermore, the assessment of the ICZM initiatives also highlighted that top-down approach in coastal management initiatives rather than a bottom-up or balanced approach still predominates. This is despite the fact that it has been argued that the top-down approach is not appropriate for ICZM as it is an obstacle to setting up a sustainable ICZM process.

Moreover the focal actor and all other actors lack the capacity to apply a sustainable ICZM process. Furthermore, in most cases the method used for building capacity in the field of ICZM in both phases were *ad hoc*, not structured, and lacked continuity.

Further to this, it emerged that one of the most prominent obstacles to an effective ICZM was the complex and sometimes unclear institutional framework for implementing ICZM, as well as the limited, ad hoc cooperation among different agencies. In other words, rigid bureaucratic systems, lack of coordination between relevant administrative bodies and limited local creativity and adaptability are reasons for ICZM failure in Egypt. To be more specific, the most significant concern

expressed by those interviewed was that no active institutional arrangement for coastal management existed for coordination between all coastal actors at all levels. This led to heightened degrees of confusion among stakeholders and inhibited the development of an integrated strategic vision. For instance, most of the ICZM local projects in both phases failed to create local networks that enhanced the integration between stakeholders and ensured that the proposed ICZM plan could be implemented in a sustainable manner. Furthermore, most of the local initiatives have neither a mechanism nor a clear framework for clarifying the responsibilities between the actors or the setting of priorities.

In addition, the review of the coastal zone management initiatives highlighted that there was a lack of effective stakeholder involvement in planning, decision making and financing, since the focal actor failed to lead other actors into becoming involved in the ICZM processes, imposing particular roles on them, building its own capacity and enhancing the capacity of other stakeholders.

Moreover, the focal actor and other actors have also failed to create and sustain public awareness of coastal values and the need for conservation. This has led to a lack of public participation in the ICZM projects. As a consequence, the low level of participation is affecting public awareness and sensitivity to environmental issues, which are still considered to be weak.

Furthermore, although there is some evidence of moves towards decentralization in Egypt, the process is still in its initial stages and needs support to enhance ICZM implementation. This means that the ICZM structure and roles in Egypt lack clarity and a systematic approach. As a result, local government, administrative decentralization, civil society and stakeholder consultation are all limited, and decision-making processes are opaque.

Thus, the thesis, based on these conclusions of the analysis, extracted the potentials and constraints that should be considered in future ICZM initiatives (section 8-8).

#### **10-2-3 Research objective four: Empirical Investigation and desk analysis**

Research objective four was addressed through an empirical investigation and desk analysis for the findings that were revealed from the evaluation of ICZM initiatives in Egypt.

The analysis findings, particularly the ICZM constraints, were validated and categorized based on structured interviews that were conducted with the interviewees (who had been previously interviewed). Furthermore, these structured interviews assisted in gaining real recommendations from the participants about how to tackle the constraints. These previously stated results paved the way for the next step – developing a practical approach that could enhance ICZM implementation.

The result of the structured interviews clarified that all the constraints that were revealed from the evaluation of ICZM initiatives were valid and there were no further constraints that the research had not considered. Furthermore, the results from the interviews highlighted that the constraints can be divided into three groups (Table 9-1). This table indicate that the four constraints related to the interaction and networking between actors are the most significant constraints that affect the implementation of ICZM in Egypt. In other words lack of integration, fragmentation of responsibilities at national and local levels, lack of stakeholder involvement and lack of considering lessons from past initiatives, are perceived as the major issues that needed to be overcome if ICZM is ever to be implemented effectively in Egypt.

Then, the interviewees responses about enhancing the implementation of ICZM and the categorised constraints in combination with the conclusion of the literature review, including the conceptual framework and the ANT approach, was translated into a practical approach. This approach was defined (9-3-1). Furthermore its structure (9-3-2) and phases (9-3-3) were identified.

#### **10-2-4 Research aim: conclusions**

The aim of this research was to develop a practical approach for enhancing ICZM implementation in countries with highly centralized governance systems and a deficit of stakeholder involvement and public participation. It is argued that the thesis has successfully achieved the central aim through developing a distinct practical approach to enhance ICZM implementation. This framework is based on gradually tackling the constraints that limit effective ICZM and presents real recommendations from the coastal management actors.

The research intended, while utilizing the conceptual framework as a starting point, to analyse the ICZM initiatives and to generate a practical approach inductively, based on an exploration of the reality of information from Egypt.

The research investigated the Egyptian ICZM initiatives, in both phases (before and after 2005) at both levels, national and local, using the conceptual framework as an analytical tool. This allowed an in-depth investigation of the initiatives and highlighted that there is no effective network that combines national and local ICZM actors. In other words, ICZM national and local programmes and projects occur in isolation from each other and from central government policies, as well as operating with different objectives and approaches. This has resulted in lost opportunities for synergy and, in too many cases, organizations working at cross-purposes with each other. Consequently, the thesis identifies the potentials and constraints that should be considered in any future implementation of ICZM (section 8-8).

The thesis examined the conclusions of the evaluation, gained real recommendations from the ICZM actors and developed a practical approach that enhances the effective implementation of ICZM (figures 9-1, 9-2, 9-3 and 9-4). However, caution should be exercised with regard to the potential of using this framework in other developing countries, given that the practical approach that can be applied in a particular country should be based on its context, including the governance system, the institutional and legal frameworks, etc. Consequently, the proposed practical approach should be considered as a guide to other countries rather than a readily replicable template for enhancing ICZM implementation. In short, this research does not provide a “silver bullet” that works in all contexts – rather, it suggests that adopting the ANCZM framework is likely to improve the rate of success. The research provides a departure point and guide for ICZM practitioners to enhance their programmes implementation. In addition, it will remain the responsibility of ICZM actors to be adaptable and demonstrate flexibility to ensure ICZM implementation is successful.

### **10-3 Directions for future research**

The final element of the thesis gives consideration to future research based on the findings presented in the thesis. In fact, several topics for further research are suggested by the results of this work. Recognizing that stable networks of actors maintain the success of ICZM, it would be helpful to understand what factors support network formation, the ways that networks grow, and under what circumstances they strengthen and become more stable.

It is also important to identify the enabling and constraining conditions that will affect the implementation of the practical approach. Further clarification of what these significant factors are and the relationship among factors is required. Thus, further research on applying ANCZM in Egypt is needed.

Moreover, further adaptation to the proposed ANCZM framework would be needed in order to use it as a generic practical approach in other developing countries especially in the MENA region.

One of the main things that have to be considered in the future research is related to the role of the donor funding especially in developing countries. In particular externally funded projects have generally been the main means of funding the preparation of ICZM within developing countries. However the majority of ICZM projects are not maintained after the funding and external technical assistance ended. This dependence on external financial and technical assistance creates both the potential for, and the reality of, non-sustainable ICZM institutions and policies as projects are terminated and support staff and funding are withdrawn. So the result is a large number of short-term projects usually conducted in isolation from each other. It would be helpful to understand and evaluate the ICZM initiatives that are sponsored by international donors in different developing countries.

#### **10-4 Final reflections**

For the sciences to make a contribution to this process, new ways of conceptualizing ICZM are needed in order to learn more about 'why many ICZM programmes have failed and how to implement an effective ICZM'. ICZM scholars have to invest in crossing theoretical borders and to capitalize on progress made in other disciplines and fields of studies. Obviously, there are different ways to do so. In this research, actor-network theory has been translated into the provinces of ICZM studies by developing a conceptual framework in order to evaluate ICZM initiatives. This has untangled the complex of ICZM implementation, providing two important conclusions that ICZM process sustainability is a multifaceted issue and that there are no simple solutions to address effective implementation.

The research also offers a unique stocktake of ICZM initiatives in Egypt, analysing all of them against the conceptual framework in order to define the potentials and



constraints that should be considered in future ICZM initiatives. Furthermore, the research also developed a practical approach that enhances ICZM implementation. This proposed framework suggests that all stakeholders' are involved from the beginning. In addition, it provides a mechanism to ensure the continuity of cooperation and coordination during and after implementation. However, the research recognizes that the potential for using this framework in other developing countries should be based on a country's context, including the governance system, the institutional and legal frameworks, etc. Therefore, each country should have its own analysis before applying the proposed framework. Hence, this research should not be viewed as providing a conclusive framework to enhance the implementation of ICZM. Rather, it should be viewed as a significant contribution to an emergent and increasingly important area of academic research.

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## **Annexes**

Annex 1: The cover of the agreement on a long-term vision workshop report



**NATIONAL ICZM STRATEGY FOR EGYPT**

**REPORT**

**OF THE FIRST WORKSHOP  
ON THE PREPARATION OF A  
"NATIONAL ICZM STRATEGY FOR EGYPT":  
A VISION WORKSHOP**

**(Cairo, 29 January 2009)**



ICZM Strategy for Egypt/W. 1/3  
PAP/RAC - EEAA  
Split, March 2009

## Annex 2: The list of interviewees

A total of 45 semi-structured interviews were conducted in the first and second phase of data collection with actors who participated in, or were related to coastal zone management activities at both national and local levels. The interviewees were selected to represent a range of different institutional perspectives. These include local and national levels drawn from the public sector, the private sector, NGOs, international agencies (donors), scholars and marine environment consultants.

Data collection phase	Interview No.	Representing	Date of interview	Location
First phase of data collection	Interview no 1	National Level initiatives	10/12/2007	Cairo
	Interview no 2	National Level initiatives	11/12/2007	Cairo
	Interview no 3	Alexandria Lake Maryut Integrated Management (ALAMIM)	17/12/2007	Cairo
	Interview no 4	National Level initiatives	19/12/2007	Cairo
	Interview no 5	National Level initiatives	20/12/2007	Cairo
	Interview no 6	Plan of action for an ICZM in the area of Port Said	22/12/2007	Cairo
	Interview no 7	National Level initiatives	23/12/2007	Cairo
	Interview no 8	National Level initiatives	24/12/2007	Cairo
	Interview no 9	Alexandria Lake Maryut Integrated Management (ALAMIM)	25/12/2007	Alexandria
	Interview no 10	FUKA-Matrouh Coastal Area Management Programme (CAMP)	28/12/2007	Matrouh
	Interview no 11	FUKA-Matrouh Coastal Area Management Programme (CAMP)	28/12/2007	Matrouh

<b>Data collection phase</b>	<b>Interview No.</b>	<b>Representing</b>	<b>Date of interview</b>	<b>Location</b>
First phase of data collection	Interview no 12	ICZM between Matrouh and El Sallum (MSICZMP)	28/12/2007	Matrouh
	Interview no 13	Red Sea Coastal and Marine Resource Management programme (RSCMRMP)	30/12/2007	Hurghada
	Interview no 14	Red Sea Coastal and Marine Resource Management programme (RSCMRMP)	30/12/2007	Hurghada
Second phase of data collection	Interview no 15	Plan of action for an ICZM in the area of Port Said	03/01/2009	Cairo
	Interview no 16	National Level initiatives	08/01/2009	Cairo
	Interview no 17	National Level initiatives	10/01/2009	Cairo
	Interview no 18	ICZM between Matrouh and El Sallum (MSICZMP)	15/01/2009	Cairo
	Interview no 19	Plan of action for an ICZM in the area of Port Said	17/01/2009	Port Said
	Interview no 20	Alexandria Lake Maryut Integrated Management (ALAMIM)	20/01/2009	Alexandria
	Interview no 21	FUKA-Matrouh Coastal Area Management Programme (CAMP)	22/01/2009	Alexandria
	Interview no 22	National Level initiatives	22/01/2009	Alexandria
	Interview no 23	National Level initiatives	23/01/2009	Cairo
	Interview no 24	Plan of action for an ICZM in the area of Port Said	23/01/2009	Cairo
	Interview no 25	Red Sea Coastal and Marine Resource Management programme (RSCMRMP)	26/01/2009	Cairo
	Interview no 26	Red Sea Coastal and Marine Resource Management programme (RSCMRMP)	27/01/2009	Cairo

<b>Data collection phase</b>	<b>Interview No.</b>	<b>Representing</b>	<b>Date of interview</b>	<b>Location</b>
Second phase of data collection	Interview no 27	National Level initiatives	29/01/2009	Cairo
	Interview no 28	Alexandria Lake Maryut Integrated Management (ALAMIM)	29/01/2009	Cairo
	Interview no 29	FUKA-Matrouh Coastal Area Management Programme (CAMP)	29/01/2009	Cairo
	Interview no 30	ICZM between Matrouh and El Sallum (MSICZMP)	29/01/2009	Cairo
	Interview no 31	Plan of action for an ICZM in the area of Port Said	29/01/2009	Cairo
	Interview no 32	Plan of action for an ICZM in the area of Port Said	30/01/2009	Cairo
	Interview no 33	National Level initiatives	30/01/2009	Cairo
	Interview no 34	Red Sea Coastal and Marine Resource Management programme (RSCMRMP)	30/01/2009	Cairo
	Interview no 35	Alexandria Lake Maryut Integrated Management (ALAMIM)	31/01/2009	Cairo
	Interview no 36	National Level initiatives	31/01/2009	Cairo
	Interview no 37	Alexandria Lake Maryut Integrated Management (ALAMIM)	01/02/2009	Alexandria
	Interview no 38	Alexandria Lake Maryut Integrated Management (ALAMIM)	01/02/2009	Alexandria
	Interview no 39	Alexandria Lake Maryut Integrated Management (ALAMIM)	01/02/2009	Alexandria
	Interview no 40	ICZM between Matrouh and El Sallum (MSICZMP)	02/02/2009	Cairo
	Interview no 41	National Level initiatives	03/02/2009	Cairo
	Interview no 42	FUKA-Matrouh Coastal Area Management Programme (CAMP)	03/02/2009	Cairo
	Interview no 43	FUKA-Matrouh Coastal Area Management Programme (CAMP)	03/02/2009	Cairo
	Interview no 44	Red Sea Coastal and Marine Resource Management programme (RSCMRMP)	04/02/2009	Cairo
	Interview no 45	Alexandria Lake Maryut Integrated Management (ALAMIM)	05/02/2009	Cairo



### **Annex 3: The semi-structured interview guide**

This guide lists a pre-determined set of issues based on the conceptual framework questions. This guide served as a checklist during the interviews and ensures that basically the same information is obtained from the ICZM actors. Yet, the order and the actual working of the questions during the interview were in Arabic.

#### **ICZM approach**

- Which approach has been used to initiate the ICZM initiatives?
- Which approach has been used to apply (process) ICZM initiatives?

#### **Capacity development**

- Does the focal actor have the capacity to initiate and coordinate the ICZM initiatives?
- Do all the actors including the focal actor have the capacity to process ICZM?
- What has been done to develop the capacity of the focal actor and other actors?

#### **Institutional arrangements and Legal framework**

- Is the ICZM supported by adequate legal framework or arrangement?
- Have the various laws and regulations affecting the coastal area environment been harmonized?
- Are they enforced?
- Are there any mechanisms to update the legal framework in response to emerging issues?
- Are there any institutional arrangements for ICZM?
- Do the institutional arrangements define clearly which actor is responsible for what?
- Are institutional arrangements becoming operational?

#### **Financial resources**

- Are the available financial resources adequate to start an ICZM process?
- Have adequate financial resources been committed for full implementation?
- Are financial resources being allocated on a sustainable basis?

## **Participation**

- Are all the stakeholders involved in the ICZM process?
- Does the focal actor support and enhance the public and stakeholders' participation?
- Which levels of participation have been processed through the implementation of the ICZM initiative?

## **Integration**

- Have the integrating dimensions been recognized in ICZM initiatives?
- Do all the participating stakeholders in all levels collaborate with each other?
- Which integration mechanisms have been used in order to implement ICZM?
- Are they effective?

## **Decentralization**

- What forms of decentralization in coastal management are there?
- Are they effective?
- Do the local actors have the capacity to manage their coastal zone?

#### Annex 4: The structured interview questions

- Based on your experience rank these issues below using a scale of four degrees (no effect, trivial, moderate, and significant) based on their impact on the effective implementation of ICZM in Egypt.

Constraints revealed from the evaluation of the ICZM initiatives.	no effect (This is not a constraint)	This item is a constraint but has a trivial effect on ICZM implementation	This item is a constraint and has a moderate effect on ICZM implementation	This item is a constraint and has a significant effect on ICZM implementation
Egypt so far still depends on a top-down approach in coastal management initiatives rather than a bottom-up or balanced approach.				
The capacity for the EEAA, and all its branches i.e. the RBOs and the EMUs as well as other coastal stakeholders, to carry out basic ICZM activities is still a challenge.				
Inadequate legal framework supporting ICZM process in Egypt.				
Inadequate enforcement of the environment-related laws.				
Coastal management in Egypt suffers from fragmentation of responsibilities at national and local level.				
There are no adequate financial resources being allocated on a sustainable basis for full implementation of the ICZM activities.				
Lack of stakeholder involvement in ICZM				
Egypt is suffering from lack of integration in the field of coastal management in all dimensions.				
Lack of public participation.				
Centralization				
Lack of considering lessons from past initiatives				

- Do you have any further constraint that you may feel it has an effect on ICZM implementation and it has not stated above?
- Based on your feedback about the issues (constraints), do you have suggestion(s) to enhance the ICZM implementation in Egypt?



## **Annex 6: Relevant Environmental Laws**

The Law No. 4 of 1994 on the protection of environment constitutes the main legislative body in the field of environment to formulate the general policy and prepare the necessary plans for the protection and promotion of the environment. The law provides for the use of environmental management mechanisms, which include command and control measures such as the setting of appropriate standards, the application of the polluter pays principle (through the implementation of penalties and fines) and the use of environmental impact assessments (EIAs). There are also other laws and regulations which deal with specific environmental issues, complementing and sometimes contradicting with the environmental law 4/1994:

### **Water Pollution**

- Law 93/1962: details responsibilities and authorities of General Organizations for Sanitary Drainage in licensing and limitations of discharges to public sewers (Ministry of Housing and Public Utilities, local authorities)
- Law 38/1967: General cleanliness and sanitation (Local Authorities)
- Law 27/ 1978: Regulates public water resources for drinking and domestic use (Ministry of Health and Population)
- Law 57/1978: Sets measures for treating ponds and marshes (Ministry of Housing and Public Utilities, Ministry of Local Development)
- Law 48/1982: Regulates the discharge of wastewater into the River Nile and other waterways (Ministry of Health and Population, Ministry of Water Resources and Irrigation). The standards of the law specifies water quality of fresh water bodies receiving industrial effluents, limitations of treated industrial effluents discharged to fresh water, quality of drainage water mixed with fresh water bodies, and quality of sewage and industrial effluent discharge to drains and brackish water bodies
- Law 12/1984: Regulates irrigation, water distribution, groundwater management in the Nile Valley and Delta, and the establishment and maintenance of drainage canals (Ministry of Water Resources and Irrigation)
- Law 874/1996: Prohibits the use, import, handling and preparation of potential carcinogenic pesticides (Ministry of Agriculture and Land Reclamation)

- Minister Decree (MD) 44/2000: Regulates the discharge of wastewater into public sewers (Ministry of Housing and Public Utilities, The Local Authorities)

### **Sea Water Protection**

- Law 280/1960: Regulates activities within the ports and the regional waters (Ministry of Defense)
- Law 79/1961: Determines measures to be taken in case of marine disasters (The Port and Lighthouse Administration, Ministry of Defense)
- President Decree (PD) 1948/1965: Establishes a permanent committee for protecting the sea from oil pollution (Ministry of Defense)
- PD 45/1983: Signs the Protocol for the protection the Mediterranean from land based pollution sources (EEAA, Port Authorities)
- Ministry of Transport Decree 5/1991: Prohibits disposal of waste in the regional water, the Egyptian ports and waterways (All Port Authorities)
- Law 4/1994, PD 421/ 1963: Protect sea water from oil pollution, ratification of the Convention for the Protection of Pollution of the Sea by Oil, London (EEAA, the Port and Lighthouse Administration) MD 64/1996: Sets the water specifications of bathing coasts (Ministry of Health and Population)

### **Solid Waste Management**

- Law 38/1967 and its amendment 31/1976 regulate collection and disposal of solid wastes. No specific rules were delineated for handling hospital and other hazardous wastes (Ministry of Local Development and its departments, Department of Civil Defense)
- MD 134/1968: Implements Law 38/1967, and provides the specifications for dumping sites (Ministry of Local Development)
- PD 284/1983: Establishes the Cairo and Giza Beautification and Cleaning Authorities. Their mandates include the collection and disposal of garbage and solid waste (Ministry of Housing and Public Utilities)

### **Hazardous Waste Management**

- Law 48/1967: Requires employers to inform their employees that they are dealing with hazardous waste (Ministry of Manpower)

- Law 137/1981 Requirements for labour safety and health in workplaces (Ministry of Manpower)

## **Annex 7: The detailed functions of EEAA**

The detailed functions of EEAA according to the environmental protection law (No.4/1994).

- Preparing draft legislation and decrees related to the fulfillment of its objectives
- Preparing state of the environment studies and formulating the national plan for environmental protection and related projects.
- Setting the standards and conditions to which applicants for construction projects must adhere before working on the site and throughout operations
- Setting the rates and proportions required for the permissible limits of pollutants.
- Periodically collecting national and international data on the actual state of the environment and recording possible changes.
- Setting the principles and procedures for mandatory Environmental Impact Assessment (EIA) of projects.
- Preparing Environmental Contingency Plans and supervising their implementation.
- Participating in the preparation and implementation of the national and international Environmental.
- Monitoring Programs and employing data and information gained thereof.
- Establishing Public Environmental Education Programs and assisting in their implementation.
- Coordinating with other empowered authorities for the control and safe handling of dangerous substances.
- Managing and supervising the natural reserves of Specially Protected Areas.
- Following up the implementation stages of International Conventions concerned with the environment.
- Suggesting an economic mechanism, that encourages the observation of pollution prevention procedures.
- Implementing pilot projects for the preservation of natural resources and the protection of the environment against pollution.



- Listing of national establishments and institutions, as well as experts qualified to participate in the preparation and implementation of environmental protection programs, and coordinating measures with the Ministry in charge of international Cooperation to ensure that projects funded by donor organizations and states are compatible with environmental safety.
- Participating in the preparation of an integrated national plan for the coastal zone management of the Mediterranean and the Red Sea areas.
- Participating in the preparation of a plan to prevent illegal entry into the country of dangerous and polluting substances and waste.
- Preparing an annual report on the state of the environment to be submitted to the President and the Cabinet of Ministers.