UNIVERSIDADE DO ALGARVE

UNIVERSITY OF ALGARVE

FACULDADE DE CIÊNCIAS E TECNOLOGIA

FACULTY OF SCIENCES AND TECHNOLOGY

"EVOLUTION OF LATIN AMERICAN APPROACHES TO INTEGRATED COASTAL MANAGEMENT (ICM): PATHS, OUTCOMES, AND GOVERNANCE BASELINES"

MESTRADO EM GESTÃO DA ÁGUA E DA COSTA (CURSO EUROPEU)

ERASMUS MUNDUS EUROPEAN JOINT MASTER IN WATER AND COASTAL MANAGEMENT

Documento Definitivo

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FARO, 2010

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DATA / DATE: March 15, 2010.

TÍTULO DA TESE / TITLE OF THESIS: Evolution of Latin American approaches to integrated coastal management (ICM): paths, outcomes, and Governance Baselines.

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ACKNOWLEDGEMENTS

To Maruja, my mother,
with love, gratitude and admiration.

To my sisters and nephew,
Thanks for your unconditional support.

To Prof. Dr. Alice Newton,
To Prof. Dr. Stephen Bloye Olsen,
My gratitude and best wishes for their time and guidance
that made possible the realization if this master's thesis

To my friends, lectures, classmates and colleagues,
Particularly to Frau Dr. Karin Kageler
And to Ing. Alejandro Íñiguez Hernández

To Prof. Dr. Beate Ratter,
To Dr. Jürgen Weichselgartner,
To Dr. Andreas Kannen,
Thanks for your words of advice

Thanks to the institutions that allowed me to take part in such a magnificent scientific, cultural and human experience

Erasmus Mundus

University of Plymouth, UK

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University of Algarve, Portugal

Land-Ocean Interactions in the Coastal Zone (LOICZ)

GKSS Helmholtz Research Centre, Germany

RESUMO

A América Latina é um mosaico de realidades sociais, econômicas, políticas e ambientais, onde milhares de esforços de gestão de costas tem sido implementados, e apenas alguns casos de sucesso documentadas. Esta tese centra-se sobre a governança da zona costeira, e identifica e sintetiza a evolução das abordagens para a gestão costeira integrada (ICM) em América Latina, e põe nesse contexto as linhas de base da governança. Para atingir tal objetivo, e como não existe um quadro de classificação de esforços de ICM, esta tese propõe a classificação *SALM* da evolução de esforços de *ICM* com base em observações derivadas de seu processo de preparação. Derivado LOICZ Prioridade Tema 3 "Linking Governança e ciência nas regiões costeiras", as linhas de base da governança tem sido implementadas com sucesso em vários contextos –áreas protegidas, zonas costeiras urbanizadas e rurais, estuários de múltiplo uso– tanto em países latino-americanos de alta como de baixa renda. Esta tese constatou que o sucesso dos esforços de ICM tende a depender do grau em que issos esforços são capazes de integrar os resultados institucionais ou de 1ª Ordem definidos pela GESAMP –metas inequívoca, circunscrições, compromisso formal, e da capacidade institucional–, e transformá-los em resultados de ordem superior, particularmente nas sistematicamente negligenciadas e críticas mudanças no uso e comportamento das instituições, indivíduos, grupos, empresas e investimentos –2ª Ordem– que são: *i*) a essência e os controladores dos benefícios ambientais e socioeconômicos –resultados de 3ª Ordem–, e, ainda mais, *ii*) a causa das ameaças para a zona costeira.

Palavras-chave: GIZC, governance, América Latina; linhas de base da governança; LOICZ; caminhos da evolução.

ABSTRACT

Latin America is a mosaic of social, economic, political and environmental realities where thousands of ICM efforts have been implemented, and only a few successful cases have been documented. This thesis focuses on governance of the coastal zone, and identifies and synthesizes the evolution of approaches to Integrated Coastal Management (ICM) in Latin America, and puts into such context the Governance Baselines methodology. In order to achieve such objective, and as no ICM classification framework has been developed to the best understanding of its author, this thesis proposes the *SALM ICM evolution path classification* based on observations derived from its preparation process. Derivated from LOICZ Priority Topic 3 "*Linking Governance and Science in Coastal Regions*", the Governance Baselines methodology has been successfully implemented in several contexts – i.e. protected areas, urbanized coasts, and rural, multiple use estuaries– in both high- and low-income Latin American countries. This thesis found that success of ICM management efforts tends to depend on the extent to which management efforts are able to integrate *all* four GESAMP-defined institutional or 1st Order outcomes –unambiguous goals, constituencies, formal commitment, and institutional capacity–, and turn them into outcomes of superior order; particularly the systematically neglected and critical conduct and use changes in the behavior of institutions, individuals, groups, businesses and investments – 2nd Order–, *are i*) the essence and drivers of environmental and socioeconomic benefits –3rd Order outcomes–, *and*, even more, *ii*) the cause of the threatens to the coastal zone.

Keywords: ICZM; Governance; Latin America; Governance Baselines; LOICZ; evolution paths.

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I. INTRODUCTION

This document is in partial fulfillment of academic requirements for the Erasmus Mundus Joint Master in Water and Coastal Management. The topic focuses on governance of the coastal zone, and aims to identify and synthesize the evolution of approaches to Integrated Coastal Management (ICM) in Latin America, to put into such context the Governance Baselines methodology, and to describe the "recipe for success".

Although Latin America is a mosaic of social, economic, political and environmental realities, during the last decades there has been a continuous deterioration of the ecosystems in the region despite local, national and international efforts to overcome such trend. Particularly, along the coastlines, where about 60 per cent of the Latin Americans live from 1997 on (Cohen *et al.*, 1997; Lemay, 1998), the increasing gap between achievements and good intentions, planning and science is resulting in rising losses in the goods and services provided by coastal ecosystems (Olsen *et al.*, 2009). Being one of the most complex and dynamic environments, coasts are continuously changing not only due to natural, biophysical drivers, but, nowadays, mainly to socioeconomic, cultural and political human drivers such as population growth, industrial and tourist development, pollution, public awareness or the lack of it, which increasingly threaten such environments (Campbell *et al.*, 2006).

Integrated Coastal Management (ICM) is, or should be, the dynamic decision-making process for the allocation, use, development and protection of coastal environments and resources. Distinctive to ICM are its multiple-purpose orientation, its all-stakeholder inclusion vision, and its assessment and balancing of the implications of

development, conflicting uses, and interconnected relationships between human activities and physical processes, as well as among sectorial, coastal and ocean activities; in other words, ICM emphasizes human needs and governance within environmental management projects and programs.

While there have been thousands of coastal planning and management of projects and programs worldwide in both high and low-income nations, there are only a few documented successful cases of applied ecosystem approach to coastal management (GESAMP, 1996; Olsen *et al.*, 2009). Even if every place's context –geography, history, culture, socioeconomic and politic background and present conditions– render it unique, integral solutions can be derived from previous experiences and learned lessons in other places by adapting them to the exact context; thus, transmitting and making available successful tools and methods is of the major relevance.

Deeply conscious of the three key governance mechanisms –markets, government, and civil society– and the complex relationships among them, the Governance Baselines methodology is founded in inspired leadership, sustained effort, scientific expertise, technical capacity, and cooperation among people and states sharing large marine ecosystems to instigate processes of societal change and inspire public involvement and support –not only financial, but sustained economic support is required until the project achieves self-sustainability– in a sensitive, flexible and adaptive way according to emerging circumstances in their execution (Olsen *et al.*, 2006). Governance Baselines –which include not only formal, but also informal arrangements and institutions into its *governance* definition– have proven very useful in Latin America as in "programs and projects in places where the ability of government to regulate and direct the processes of ecosystem change is weak or severely constrained" (Olsen *et al*., 2009).

In order to achieve its objectives, this document comprises six chapters and seven annexes. This first chapter states the objectives and reasons for embarking on *governance in Latin America* as topic for this master's thesis. To attain the best possible understanding, Chapter II summarizes the Latin American context; reviews key concepts to governance and to the Governance Baselines methodology; standardizes vocabulary, and presents an overview of the evolution of coastal governance in the region.

As this document is not intended as a thorough analysis of every coastal management effort in Latin America, but unwilling to make simple generalizations, the third chapter, "Methodology", reflects on the available information; explains the criteria for selecting the 6 addressed countries out of the 18 Latin American nations with coastlines; depicts the comparisons that such information enables, and states the four questions used to identify the evolution of Latin American ICM approaches.

The fourth and fifth chapters contain the answers to those four questions. Chapter IV presents the coastal economic aspects and priority issues in Latin America, the ICM evolution paths in the region, its current state and environmental scenarios and political options. Being an objective of this thesis to identify the ICM evolution paths in Latin America, and as no ICM classification framework has been developed to the best understanding of its author, this chapter also proposes the *SALM ICM evolution path classification* based on observations derived from the preparation process of this thesis. The fifth chapter analyzes ICM case studies at national and regional, as well as Governance Baselines ICM efforts, in terms of their evolution and outcomes, recognizing and deducting the elements that rendered them successful and to what extent.

Finally, chapter VI draws conclusions on the evolution of approaches to ICM in Latin America, puts into such context the Governance Baselines methodology, and summarizes the "recipe for ICM success." In addition, annexes 3 to 7 compile information on the national ICM approaches of the selected countries, and on the programs and projects addressed in this thesis' main body.

II. THE GEOGRAPHICAL CONTEXT

2.1. Latin America

2.1.1. The region

Broadly accepted, but ambiguous and lacking of a consistent use, the term *Latin America* requires to be clarified. Geographically, the American Continent is divided into North –including Mexico–, Central and South America. From the socioeconomic point of view, the most likely accepted by American scholars, Latin America comprises every nation in the American Continent southwards of the United States of America (Bruns, 1986; Colburn, 2002; Skidmore and Smith, 2005). Culture-oriented and derived from the former European Colonial territories in the continent, United Nations', the Organization of American States' and World Bank's (2009) definitions divide the continent into North and Latin America, and the Caribbean; including Mexico in the *latino* zone by itself (ECLAC, 2008) or in Central America (UN, 2009; UNSTATS, 2009). For this thesis' purposes, the term Latin America (Fig. 1) comprises every independent country in the main continental mass southwards from the United States of America according to Table 1.

The term Latin America tends to advance the assumption of cultural (Colburn, 2002), economic, political and environmental (Jordan and Martinez, 2009) homogeneity in a region that comprises 20 independent countries, about 20.2 million sq km –the European Union (27 Nations) has about 4.3 million– and more than 576 million inhabitants (Table 1) of which, since 1997 on, about 60 per cent live within a 100 km of the coast (Cohen *et al.*, 1997; Lemay, 1998; Mohamed-Katerere, 2007). In spite of some coincidences in which the previous definitions are founded, Latin American

nations differ among other factors in size and resources; indigenous population; to a certain extent in historical, cultural, economic and political backgrounds; and in their interaction with other countries, especially among themselves, with the United States, Europe and China (Colburn, 2002; Skidmore and Smith, 2005).

Table 1: Countries in Latin America

#	Sub-region #	Country	Area (km2)	Coastline (km)	1,000xrate Coast/area	EEZ 1,000 x (km2)	Population (million)*
North America (Geographic)							
1	1	Mexico	1,964,375	11,592	4.75	2,851	111.21
Central America (Geographic)							
2	1	Belize	22,966	386	16.81	-	0.31
3	2	Costa Rica	51,100	1,376	25.24	259	4.25
4	3	El Salvador	21,041	307	14.59	92	7.19
5	4	Guatemala	108,889	403	3.67	99	13.28
6	5	Honduras	112,090	844	7.32	201	7.79
7	6	Nicaragua	130,370	923	6.98	169	5.89
8	7	Panama	75,420	2,988	33.02	307	3.36
South America (Geographic)							
9	1	Argentina	2,780,400	4,989	1.79	1,164	40.91
10	2	Bolivia	1,098,581	0	0	0	9.78
11	3	Brazil	8,514,877	16,885	1.98	3,168	192.00
12	4	Chile	756,102	6,435	8.51	2,288	16.60
13	5	Colombia	1,138,914	3,208	2.82	603	45.64
14	6	Ecuador	283,561	2,237	7.89	1,159	14.57
15	7	Guyana	214,969	459	2.14	130	0.77
16	8	Paraguay	406,752	0	0	0	7.00
17	9	Peru	1,285,216	2,414	1.88	1,027	29.55
18	10	Suriname	163,820	386	2.36	101	0.48
19	11	Uruguay	176,215	660	3.75	119	3.49
20	12	Venezuela	912,050	2,800	3.07	364	26.81
Latin America			**20,217,708**	**59,292**	**2.79**	**14,101**	**540.88**

* *Estimated population in 2008*

Compiled from: UNSTATS, 2009; Suman, 2002; Windevoxhel *et al*., 1999.

There are, nevertheless, common, current elements in every country in Latin America and the Caribbean, including:

- all of them are *less developed* –or *developing*– countries (UN, 2009; UNDP, 2009);
- division, poverty and the "biggest inequality in the world" characterize them according to Jose Manuel Insulza, Secretary General of the Organization of American States (Insulza, 2009), being their most pressing problems (Bárcena and García, 2009);
- to a major or minor extent, the ability of their governments to regulate and govern the societal processes is, under certain circumstances, weak or severely constrained –in such direction point that several political-related issues have been, and still are recurrently addressed by most national governments and international bodies in the region–; and,
- they shape a region of contrasts, not only between countries, but also between areas within a country, towns within an area… (ECLAC, 2008).

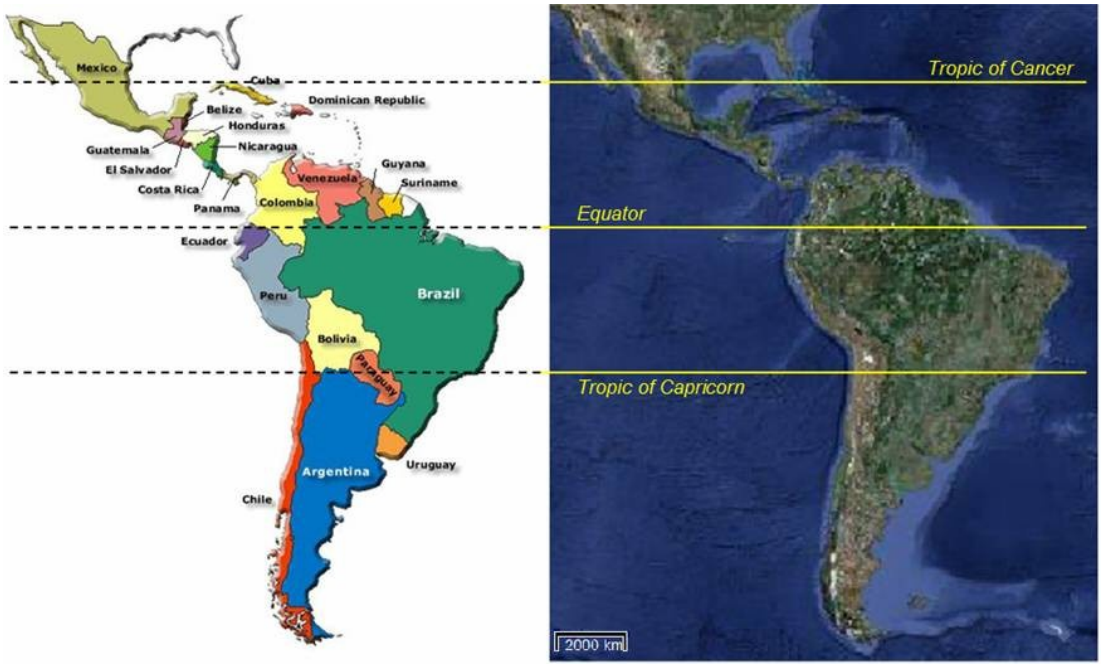


Figure 1. Latin America: Political and physical map. (Adapted from Google Maps)

2.1.2. Socioeconomic overview

Division, poverty and the biggest inequality in the world characterize Latin America (Insulza, 2009). If, on the one hand, the proportion of poor people decreased from 48.3 per cent in 1990 to 42.9 per cent in 2004, closing the poverty gap (UN, 2007); on the other hand, there are still 222 million people facing poverty conditions –living on less than 2 US dollars a day–, of which 96 million survive in extreme poverty condition –with less than 1 US dollars per day– (Mohamed-Katerere, 2007), *and* the middle class is disappearing (Bárcena and García, 2009).

In addition, every nation in Latin America is classified as a *developing country* by the United Nations Development Program (UNDP, 2009) [Table 2, Fig. 2]; and their achieved growth has not resulted in substantial benefits for poor people due to the existing inequality (Mohamed-Katerere, 2007). Caused not by economic development, but by a historical series of public policies, inequality in income generation –the 10 top percentile of the population tends to concentrate about 35 per cent of the country's income, 45 per cent on Brazil– extends to job opportunities, private property ownership rates, access to education, goods and services –even the most basic ones such as safe drinking water and sanitation– through all Latin America, being the most affected countries Nicaragua, Bolivia, Venezuela, Peru and Brazil (Insulza, 2009; Jordan and Martinez, 2009). Moreover, OAS Secretary General, José Miguel Insulza, stresses in 2009 what U.S. Senator William Fulbright highlighted more than 3 decades ago: "They [Latin Americans] are less and less happy with situations in which, to cite one example, 40 per cent of the land is owned by 1 per cent of the people, and in which, typically, a very thin upper crust lives in grandeur while most others live in squalor" (Institute of Inter-American Studies, 1975).

Table 2: UNDP's classification of Latin American nations (Human Development Index)			
Developing or *Less developed* countries *			
High human development countries		*Medium human development* countries	
1. Argentina	7. Mexico	12. Belize	18. Nicaragua
2. Brazil	8. Panama	13. Bolivia	19. Paraguay
3. Chile	9. Peru	14. El Salvador	20. Suriname
4. Colombia	10. Uruguay	15. Guatemala	
5. Costa Rica	11. Venezuela	16. Guyana	
6. Ecuador		17. Honduras	
* The Human Development Index of the United Nations Development Program (UNDP) classifies each country in the world as a) a *Developed* or *Very high human development* nation; b) a *Developing* or *Less developed* –sub-classified into b.1) *High* and b.2) *Medium human developed*– nation; or, as c) a *Least developed* or *Low human development* nation.			
Source: UNDP, 2009.			

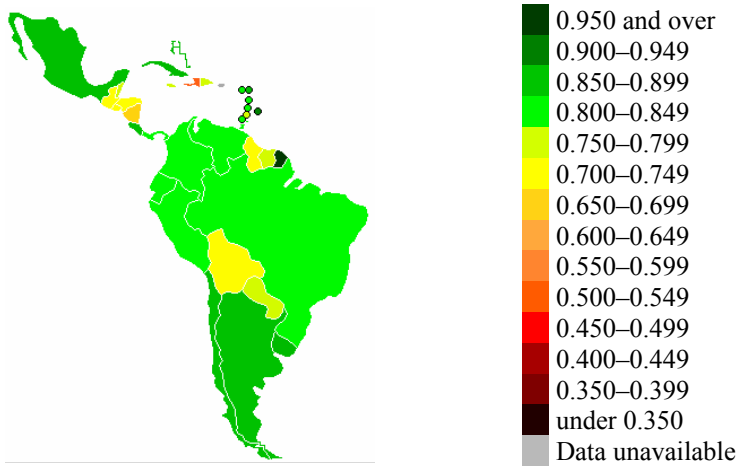


Figure 2. Human Development Index of Latin American countries. Adapted from UNDP, 2009.

From 1971 to 2007, the regional economic growth rates in terms of gross domestic product (GDP) decreased form an annual average of 5.6 per cent in 1971-1980 to 1.2 per cent in 1981-1990 –the 'Lost Decade'–, to 3.3 per cent in 1991-2000, and 3.0 in 1991-2007 (UNEP 2003; 2007). In addition, since 1980 growth rates have been lower than the annual average 5 to 6 per cent required to overcome the region's serious poverty problems (ECLAC, 2000; 2008)

Between 1987 and 2005, the Latin American urban population increased from 69 to 77 per cent due to the lack of jobs and accentuated poverty in rural zones,

resulting in a large, unplanned urbanization concentrated next to the coast (UNEP, 2007). Degraded coastal areas by urbanization, aquaculture and shrimp farming, also fostered and developed in such period, increased health risks and economic losses from declining fisheries and tourism (UNEP; 2007). Over the last decade, the Latin American policies have used combinations of command, control and economic instruments to improve urban planning and reduce environmental impacts (Mohamed-Katerere, 2007).

Some features that characterized Latin America in the 90s include: the liberalization of foreign trade and of financial markets, the reduction of state regulations, the privatization of public companies and services, and the liberalization and more flexible labor relations and contracts (UNEP, 2003). The economic growth then was volatile, generated mostly informal jobs, and became more and more dependant on foreign investments, reaching 77,300 million US dollars in 1999 (ECLAC, 2001). In the first half of the decade, there was an economic boom achieved at the cost of macroeconomic imbalances that implied greater vulnerability to be affected by foreign financial crises, which occurred in Mexico (1995), Brazil (1998) and, Argentina (2001). In the overall context, the 90s' economic growth was generated by the boom of assets privatization, as more than half of such investments were destined to the acquisition of already-existing assets, and did not create new productive capacities; thus, strengthening the strategic position of transnational companies (ECLAC-UNEP, 2001). The Mexican and Central American boom in manufacturing exports was due to the proliferation of assembly activities (*maquilas*), with little integration into national economies (IMF, 2001). By the end of 2001, the accumulated foreign debt was about 726,000 million US dollars, and more than 45 per cent of the exports income was for servicing it (ECLAC, 2001).

During the 2000s, external commerce, tourism, remittances, foreign investment and the economic cycle depending more and more on the relationship between China and the United States tend to vary along Latin America, favoring more South America than Mexico and Central America (García, 2005; Machinea, 2005; Muños, 2005). Most Central American and Caribbean countries, formerly subsisting on sugar cane, tobacco, coffee and banana exports, rely nowadays on tourism, external commerce with the USA (Crespo and Suddaby, 2000; Hall, 2001; Padilla, 2004; Altes, 2006; UNWTO, 2007; ECLAC, 2007a; 2008) and on money remittances (*remesas*) from migrant workers to the USA, such as Mexico does (ECLAC, 2008). Although Bolivia and Ecuador are also heavily reliant on remittances, on the other hand, most South American nations seem to depend more on their commerce within the region, with Europe and the Asia-Pacific region, as well as on FDI (Machinea, 2005; ECLAC, 2007b). Nonetheless, due to the reduction on the region's trade with the USA and to increasing commercial relationships with the Asia-Pacific region, every Latin American regional market integration scheme –MERCOSUR, the Andean Community, the Central American Common Market, and the Caribbean Community– fosters trade negotiations with organizations such as the Cooperation Council for the Arab States of the Gulf and the European Union that, from 2008, also seeks an strategic trade partnership with Mexico similar to the one achieved with Brazil in 2007 by reason of the 8-years standstill in the negotiations with MERCOSUR (Ojeda, 2001; ECLAC, 2007c). Along with funds from the USA, the Netherlands and Spain –the traditional main investors in Latin America–, the expansion of Trans-Latin companies in recent years has resulted in increasing FDI inflows to the region, especially to Brazil, Chile, Mexico and Colombia in sectors such as natural resources and manufactures; food and beverages; mining, iron and steel, and

building industries; oil, gas and petrochemical industries; and services including retail commerce, banking, electricity and tourism (ECLAC, 2007b; 2007c).

Even though many Latin American countries have recently implemented prudent macroeconomic managements that provided buffers for the actual recession, they continue to be commodity-exporters –including Argentina, Brazil, Chile, Mexico, and Venezuela– which are heavily affected by declines in export volumes, weak commodity prices, and tight external financing conditions (IMF, 2009).

2.1.3. Political overview

Even if the ability of the Latin American governments to govern and direct the societal processes is, in certain circumstances, weak or severely constrained, the new elected Latin American governments tend to be elected by democratic means; there has been a trend to decentralize and delegate authority to regional and local levels; awareness has been raised and respect achieved in issues such as human rights and women rights; and the civil society is or is in the path to be an important actor in the decision-making process (UNEP, 2003)

During the Cold War, Latin American politics were mostly influenced by US actions, which mainly aimed at defeating Communism and rebuilding Europe –also the objectives of Marshall Plan, to which Japan was later included– (Holden and Zolov, 2000; Ojeda, 2001; Herring, 2008). Meanwhile, in the 'neglected' Latin American countries occurred several socialist attempts that, after the Cuban Revolution in 1959, provoked penetration strategies of the United States 'towards Latin America at every level' (Ojeda, 2001). Although the Reagan Doctrine did not explicitly state the fight against communism backing coups d'état until the 1980s, such movements were supported in Guatemala (1954), Brazil (1964) and Chile (1973) deriving in military

dictatorships or *juntas* governing every South American nation from the 1970s (Herring, 2008).

The Falklands Conflict, or *Malvinas* War, in 1982 resulted in a deep breakthrough in the relationship between the United States and most Latin American nations that, given the American support to the United Kingdom against Argentina –that assisted them in training and supplying the Nicaraguan Contras–, rendered the Inter-American Treaty of Reciprocal Assistance (1947), or Rio Treaty, and its subjacent 'Hemispheric defense' doctrine inoperative (Freedman, 2005; Sloan, 2005).

Due to the implementation of the *Perestroika*[1] and the *Glasnost*[2] policies by Michael Gorbachev from 1985 on, the situation in Latin American regimes, except for Cuba, evolved from dictatorships to free-elected, constitutional governments by the early 1990s (Colburn, 2002). According to Herring (2008), free elections and settlements between guerillas and the Latin American governments were facilitated when, disintegrated the USSR and the Cold War ended (1991), Russia started to cooperate with the United States. While Mexico was not governed by military dictatorships, its presidents arose from the ruling party, the PRI, from 1929 until 2000; although by the 1994 presidential elections the PRI's elite was already committed to genuine competitive democracy.

According to Cardoso and Hills' (2005) *Report of the U.S. Policy Task Force of the Inter-American Dialogue*, the American and Latin American international agendas have recently been diverging, and the US influence in the region seems to have diminished. Yet, that also depends on the country: Colombia and Peru are close to the United States; several moderated left-wing governments such as Brazil, Argentina,

[1] *Perestroika*: the USSR's economic restructuring (McNair, 1991, p.43).

[2] *Glasnost*: from the Russian 'transparency', the reform tending to the freedom of speech and of the press and to a transparent state administration (McNair, 1991, p.43).

Chile, Paraguay and Uruguay occasionally implement opposing foreign policies to those of Washington; and Venezuela and its occasionally aligned countries –Bolivia, Ecuador and Nicaragua– tend to be more critical. A list of left-wing governments in Latin America are listed in Annex 1.

Furthermore, international military conflicts in the Latin America and the Caribbean tend to be unrelated to the United States; as the former Peruvian President, Alejandro Toledo, stated in the *Oppenheimer presenta 117* TV program: 'Among countries there are not friendships, but relationships of interest where the biggest allies in one issue can be the fiercest rivals in some other.' According to Mares (1995), since 1883 until 1989 there were 161 international military conflicts –90 in South America and 72 in Mexico, Central America and the Caribbean– mainly related to territory, resources control (minerals and oil), access to the ocean, migration and borderline issues (Annex 2). The latest and only major international military conflict that differs in nature to the other ones, the attack of Colombian military on FARC guerrilla in Ecuador's territory triggered the creation (2009) of the South American Defense Council –*Consejo de Defensa Sudamericano*, an 'unprecedented' military treaty in the Western Hemisphere assembling all 12 South American countries– to avoid such incidents (AFP, March 11, 2009).

Several political-related issues that have been, and still are recurrently addressed by most national governments and international bodies in the region –CARICOM, ECLAC, IADB, OAS, The World Bank, UNDP, UNESCO, USAID– include corruption, poverty, inequity, lack of transparence and trust in authorities, poor governance conditions, and lack of (reliable) information, all of which most surely point that Latin America is a region where, to a major or minor extent, the ability of

governments to regulate and govern the social processes is at least weak or severely constrained.

Although, the overall political panorama may seem not very promising, there are several remarkable democratic signs in the region such as: (*i*) the election of the first Indigenous president in South America, and the second Indigenous president in Latin America[3]; (*ii*) the election of women presidents in Argentina and Chile (Annex 1), the last one, Michelle Bachelet, is the first elected woman by direct election[4] without being the wife of a political leader[5] (Starr, 2006); (*iii*) the unanimous vote in the Organization of American States (OAS) to suspend Honduras from the organization while the president Manuel Zelaya, deposed by a coup-d'état in June 2009, cannot return to the office (El Mundo, July 05, 2009); and, (*iv*) the active participation of the civil society in most fields and the creation of institutions such as Non-Governmental Organizations.

2.1.4. Environmental overview

Since 1972, environmental policies and laws created and enforced –with more or less success, craft, and/or conviction– by the, also, recently created government environmental agencies in charge of safeguarding protected areas and their citizen's environmental rights into which the environmental efforts in the region have led (López, 2002). Public awareness and participation has been moderately achieved, as well. However, as Rosenthal stated in 1994, Latin America's situation is still serious, and

[3] Evo Morales in Bolivia. The first full-blooded Latin American President was Benito Juárez, a Zapotec Amerindian who served several times (1858–1861 as interim, 1861–1865, 1865–1867, 1867–1871 and 1871–1872) as Mexico's president and received the title of *'Benemérito de las Américas'* –'the meritorious one of the Americas'– from Colombia in 1865.

[4] Ertha Pascal-Trouillot was interim president in Haiti (1990–1991), Janet Jagan was elected president indirectly in Guyana (1997).

[5] Violeta Chamorro, widow of a prominent editor, was elected Nicaraguan president in 1990.

must face, balance and achieve simultaneously the development and conservation of their natural resources.

In Stockholm, 1972, for the first time 113 nations gathered to discuss environmental issues in the United Nations Conference on the Human Environment, which outcomes include the establishment of the United Nations Environment Programme (UNEP) –its environmental agency–, and the incorporation of the environment in public management instruments. Then, concerning for economic progress and considering such policies as unattainable luxury requirements of developed countries, most of the few attending Latin American diplomats shielded their protests against environmental policy with their sovereign right to decide on their natural resources (UNEP, 2003).

According to Urquidi (1994), while UNEP highlighted since its creation the economic advantages of environmental protection, and warned of the costs of misusing natural resources; in the 80's evolved the *sustainable development economy* theory, that aimed to encompass development and environmental conservation. During such period the Forum of Ministers of the Environment of Latin America and the Caribbean, that included every nation in the Western Hemisphere, was created, as well as a large number of protected areas (UNEP, 2008). The governmental efforts in the region on fauna and flora conservation for improving the quality of life, not only the economic development, was fostered and supported by environmental NGOs and international organizations such as the Inter-American Development Bank (IDB) and the World Bank (WB).

Although emphasizing a fair distribution of the natural resources' social benefits, *Our Own Agenda* (1990) –a Latin American and Caribbean initiative by the IDB and the UNDP– adopted the ideas of *Our Common Future* (1983), a report by the

Brundtland Commission –UN World Commission on Environment and Development–, which observed (*i*) that "many 'development' projects were leading to increased poverty, vulnerability and even degradation of the environment," and (*ii*) conditioned economic growth and human species survival to firm political action allowing the proper administration of environmental resources (UNEP, 2003).

In 1992, the Conference on the Environment and Development or first Earth Summit was held for addressing "environment and development" along with issues affecting human settlements due to climate change. The agreements reached there, such as The Rio Declaration on the Environment and Development and Agenda 21, provided the basis for sustainable development, that is, "the most universal political and articulated response to the problem of how to establish an international co-operation regime designed to achieve full inclusion of the environment into development" (UNEP-ROLAC, 2002). The Latin American representatives at this summit pressed on the close relationship between the region's poverty and environmental circumstances.

During the 90's, external pressures were the main driver for the reformulation of the Latin American environmental policies resulting in the creation of most Latin American Environmental Ministries (Brañes, 2001). On the one hand, free trade agreements such as the NAFTA that required amendments of the Mexican environmental policy; on the other hand, the loans of the IDB and WB were conditioned at the beginning of such decade to environmental requirements, that, by its second half, also included institutional strengthening measures (Espinoza and Alzina, 2001).

On time Agenda 21 diversified, especially regarding local initiatives, and several other regional initiatives were developed, such as the Central American Alliance for Sustainable Development (1994), the Summit of the Americas on Sustainable

Development (Santa Cruz de la Sierra, Bolivia, 1996) and the commitments of the Andean Community to protect its biodiversity (UNEP, 2003).

The Meso-American Biological Corridor running from Mexico to Panama was agreed in 1997 aiming to use environmental conservation as the mechanism to "alleviate poverty and improve quality of life, foster regional cooperation, preserve the region's rich cultural heritage, and promote a new image internationally" (Mohamed-Katerere, 2007).

In 2001, the Latin American and Caribbean countries raise the idea of an equitable, inclusive and sustainable new globalization for achieving "greater coherence and coordination between environmental, social and economic strategies and policies" (ECLAC-UNEP, 2001).

Within the framework of the Johannesburg Summit (2002), where the resolution of working towards sustainable development was renewed, the Latin America and Caribbean Initiative for Sustainable Development was approved. Among other objectives of such initiative included into the Summit's implementation plan is to "improve management of watersheds and marine and coastal zones, and reduce the discharge of pollutants." Additionally, the Plan of Implementation agreed with recommendations and objectives to reconcile economic growth, social justice and protection of the environment focusing among others on biodiversity, fisheries, and natural resources in seas and forests (JPOI, 2003).

According to UNEP's *Global Environment Outlook GEO 4, Environment for Development* (2007), the main priorities to be addressed nowadays in Latin America and the Caribbean are:

- urban growth;
- biodiversity threats;

- coastal damage and marine pollution; and
- vulnerability to climate change.

All of which translate into biodiversity loss and marine and terrestrial ecosystems degradation –land degradation affects 15.7% of the region, and 66 per cent of global forest loss occurred in Latin America– resulting in economic losses (tourism) and impacts on human health in the region (Mohamed-Katerere, 2007).

While only a few Latin American countries attended the United Nations Conference on the Human Environment, in Stockholm, 1972; nowadays every country in the region has environmental bodies and policies, public awareness and participation has increased. Nonetheless, the proper integration of environmental issues in strategic development strategies is still a challenge to face. Moreover, Latin America has not capable of reversing the trends of poverty growth and environmental degradation.

2.2. Governance

2.2.1. Concepts

Integrated Coastal Management (ICM)

There is evidence of nearly two millennia of coastal policy and defenses: Frisian's artificial hillocks, reclamation works in England during the Roman administration, coastal protections around estuaries in The Netherlands in the 13th century, medieval Dutch *zeeburghen* (sea-walls) contemporary with breakwaters protecting mills in England, France and Spain, Venetian *murazzi*; as early as 1282 and 1389, laws regulated coastal activities prohibiting "to cut or burn trees from coastal forests, to pick mussels from rock revetments or to let cattle walk the dikes;" in 1501

appeared the first specialized judge in sea issues: the *Magistrato alle acque* (Charlier *et al.*, 2005). According to Pahl-Wostl *et al.* (2008), only recently water has become prominent on the global political agenda: the Mar del Plata conference in 1977, agreements like the adoption in 1982 and 1997, respectively, of the UN conventions on the seas and watercourses, the Dublin conference on water in 1992, Chapter 17 in Agenda 21 adopted in 1992, the four World Water Forums since 1997, and the Millennium Declaration of 2000.

Although from 1965 to 1975 the practice of Integrated Coastal Management was confined to the United States, Australia and UNEP's Regional Seas Programme (Sorensen, 2002), over the last three decades there have been hundreds of international initiatives, programs and projects for governing more effectively the world's coastal and marine ecosystems (CRC, 2002). Nowadays, about 50% of the world's population lives within 200 km of the coastline; by 2010, 20 out of the world's 30 mega-cities will be on the coast, and increasingly vulnerable (Matsuura, 2008). In 1282 and 1389 (Charlier *et al.*, 2005), in 1998 (Charlier and de Meyer, 1998), just as today (Matsuura, 2008), coastal policy-makers continue to be concerned about the same tribulations: risks mitigation, population growth pressures and conflicting demands in coastal zones.

After the endorsement in 1992 of the Integrated Coastal Management (ICM) concept by the United Nations Conference on Environment and Development in Rio de Janeiro (Rio Treaty), the main concept started to evolve from Coastal Management (CM) to Integrated Coastal Management (Sherman, 1999). According to Charlier and de Meyer (1998), the primary tasks of *Coastal Management* are protecting humans, their key infrastructure and economic activities from the sea, and guaranteeing the continuity of critical natural services. Not very divergent, but a little more developed than the previous definition, GESAMP (1996) states that "the goal of ICM is to improve the

quality of life of human communities who depend on coastal resources while maintaining the biological diversity and productivity of coastal ecosystems."

Although every ICM program includes both land and water within their zone boundaries, there is a lack of a universal set of boundaries; which derive from and vary to meet the goals of specific programs (Clark, 1997). Moreover, the methods and policies –and their enforcement– by which all these objectives are achieved depend on the cultural, socioeconomic, political, historical, ecological and aesthetic values of the population as much as on the physical and environmental characteristics of those areas (Charlier and de Meyer, 1998; McFadden, 2007). Thus, for achieving positive results within human societies, ICM processes must integrate simultaneously government with the community, science with management, and sectorial with public interests in actions that combine development and environmental conservation (GESAMP, 1996).

Every coastal management plan has to be tailored to the unique conditions in each location (CRC, 2002). Its effectiveness depends not only on dealing with the environment as a whole –without neglecting scientific knowledge–, but particularly on dealing with humans, with interest-driven humans within markets, the community and government for balancing competing uses resources and guaranteeing the long-term environmental health in a context-sensitive manner –Table 3 shows a list of typically addressed issues, and techniques used by ICM–. Also, "while not expressed in formal instruments such as laws and institutions, perceptions, aspirations and world views directly influence how a society manages its natural resources" (GESAMP, 1996). In addition to how resources are utilized, perceptions of environmental resources determine their relative value to the community (Cinner and Pollnac, 2004) i.e. what could convince a community surviving in extreme poverty conditions near a marine protected area not to fish endangered species? Such relative values reflect various

satisfiers ranging from utilitarian, such as income or food source, to aesthetic (Pollnac, 2000); however, Cinner and Pollnac (2004) recognize that wealth is the most important socioeconomic variable influencing perceptions of coastal resources.

Table 3: Addressed issues and techniques used by ICM

Issues	*Techniques*
• Resource depletion • Pollution • Biodiversity conservation • Natural hazards protection • Sea level rise • Eroding shorelines • Land use • Reduction of negative land use impacts • Landscapes • Resource conflicts • Fisheries and aquaculture • Shipping and navigation • Tourism • Energy production • Security	• Integrated management • Sectorial coordination • Strategy planning • Land use planning • Watershed management • Zoning of resource areas • Nature reserves • Buffer zones • Zones of influence • Setbacks • Monitoring • Adaptive management • Multiple-focus approaches • Participation of relevant stakeholders • Communication • Community-based management

Source: Adapted from Charlier, 1989; Clark, 1997; Young *et al.*, 2007.

All the above considered, the disciplines involved in the ICM process include political sciences, sociology, philosophy, psychology, economics, management, geography, educational sciences, law, hydrology, meteorology, biology, biochemistry, and technological risk assessment (MEG, 2008a). Even more, Sherman (1999) states that emphasizing on governance, participation, public education, consensus building, and voluntary compliance is in the best interests of ICM due to their 'real use,' along with Stojanovic *et al*. (2004) supporting that successful integrated coastal management should also be measurable not only with indicators, but with research, and should contribute to generate wise practices.

The Management Cycle

According to Olsen *et al.* (2009), from the myriad ways in which integrated resources management programs –including ICM– have been described, the framework developed by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, GESAMP 1996, is a simple and widely used one. Such framework, the GESAMP cycle (Fig. 3), recognizes five logically-ordered steps within a management cycle, summarized in Table 4. However, programs may progress in differing sequences, usually at the cost of efficiency e.g. a law –Step 3– orders to analyze issues and develop a plan –Step 1 and 2–, probably resulting in inadequacy if the law does not fully enacts the required actions (Olsen *et al.*, 2009). The more feedback loops within and between steps foster, the greatest that progress and learning are (GESAMP, 1996; Olsen *et al.*, 1997; 1999).

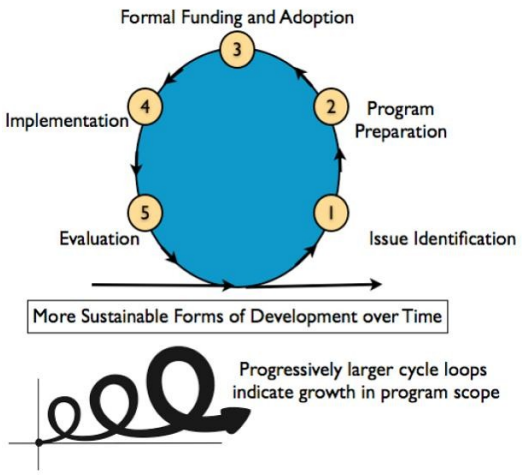


Figure 3. The Management Cycle (Olsen *et al.*, 2009).

Table 4: Steps of the Management Cycle

Step	*Name*	*Activities*
1	Issue identification	Analysis of problems and opportunities.
2	Program preparation	Formulation of a course of action.
3	Formal funding and adoption	Commitment of stakeholders, managers and political leaders commit to new behaviors; Establishment of policies and a plan of action; Allocation of resources, funding and authority.
4	Implementation	Implementation of policies and actions.
5	Evaluation	Evaluation of successes, failures, learning; and, Re-assessment of the state of the addressed issues.

Source: Own elaboration with information from Olsen *et al.*, 2009.

2.2.2. Environmental governance and recent efforts

Governance is neither government, nor management. Developed about 20 years ago, and already from the Coastal Management's –not the much broader ICM into which it evolved– viewpoint, *governance* is a key notion for consolidating diverse uncovered activities by the traditional term *government* (Jessop, 1998); being precise, it is about the interaction in the decision-making and rights-, obligations- and authority-distribution processes between government, markets, social organizations and citizens, recognizing the multiple scale and interrelated nature of the current environmental issues that societies contend with (CRC, 2002; McFadden, 2007). Thus, being the government a major part and mechanism of governance, but just that. Additionally, *management* refers to the course of action by which the resources are used "to achieve a [widely accepted] goal within a known institutional structure;" whereas, *governance* deals with the fundamental goals and institutional processes and structures on which planning and decision-making rely –the values, policies and laws–, in other words, governance sets the stage within which management occurs (Olsen, 2003).

Following Walti and Moloney (2008), the worldwide increase of environmental governance was driven and consolidated by international policies on sustainable development –mainly the 1992 "Rio Declaration" and Agenda 21– that changed the environmental goals and processes for achieving them, in other words, national and participatory strategies and councils were created to achieve sustainable development.

Agenda 21's full implementation, the Programme for Further Implementation of Agenda 21 and the Commitments to the Rio principles were endorsed at Johannesburg 2002 World Summit on Sustainable Development. Particularly relevant in coastal and marine terms is Agenda 21's Chapter 17: Protection of the Oceans, all kinds of Seas,

including Enclosed and Semi-enclosed Seas and Coastal Areas and the Protection Rational Use and Development of their Living Resources.

According to Duda and Sherman (2002), due to the required thinking and behavior paradigm shifts in specialists and institutions, the transition from traditional sector-by-sector management to ecosystem-based management will take 15 to 20 years –time lapse evaluated through management experiences in the North American Great Lakes, the Baltic Sea, the Rhine basin and the Mediterranean Sea – before meaningful commitments to joint management improvements are achieved. Moreover, the environmental response will take longer to respond after the stress factors (i.e. pollution, over-fishing, eutrophication) have ceased; thus achieving environmental and societal goals may take 20 to 30 years (Olsen *et al.*, 2006; Dennison, 2008). Nevertheless, according to Bulkeley *et al.* (2003), the outcomes of involving actors and institutions from the government, private businesses and the civil society at local, state and global levels were already tangible in Europe by 2003 in the Transnational Municipal Networks.

Concomitant efforts to those of governments and international bodies have been done by the academy on its own, and in close cooperation with the previous actors. Thousands of peer-reviewed papers published in the last years address governance issues: medical, corporate…, but especially environmental governance ones. Being governance a theme of growing importance, from 2006 on DOAJ (2009) data show at least 10 new-created open access journals include *governance* in their keywords; 4 of them even incorporated the word into their journal's name. The Hertie School of Governance, now a leading policy institute in Europe, was established in 2003 in Berlin (Hertie School of Governance, website). In 2004, the University of Hamburg created its Centre for Globalization and Governance (CGG) [University of Hamburg, webpage].

The first class of the International M. Sc. Program 'Environmental Governance' of the Albert-Ludwig-University Freiburg started in 2007 (MEG, 2008a), a year after the University of Geneva and the United Nations Environment Programme (UNEP) launched jointly a similar postgraduate program (University of Geneva, 2008). The aim of the 2007 Freiburg Forum on Environmental Governance was "to initiate a first step towards the systematic understanding of the role of individual leadership in environmental governance by shedding light on the influencing situational, positional and individual factors" (MEG, 2008b). *Cumulative effects of multiple human activities where land and ocean meet – Their integrated management and governance involving multiple stakeholders across national boundaries and political jurisdictions* was published by the UNESCO-SCOPE-UNEP's Policy Briefs journal in 2008; United Nations Environment Programme's Yearbooks include a chapter on Environmental Governance. On October 2008, the IHDP Scientific Committee approved the Earth System Governance Science and Implementation Plan and appointed a Scientific Steering Committee: the formal start of the Earth System Governance, its newest core science project involving research in more than a hundred countries (IHDP, 2008).

2.2.3. Definition of Governance for this thesis' purposes

Being one of this dissertation's purposes to put the Governance Baselines methodology –thoroughly described in *LOICZ Reports and Studies No. 34*, Olsen *et al.*, 2009– into the Latin America context, the definition hereafter used is the one stated in such report, which evolved from a collaboration with the Large Marine Ecosystem (LME) program sponsored by the Global Environmental Facility (Olsen *et al.*, 2006):

"*Governance is defined as the formal and informal arrangements, institutions, and mores that structure and influence:*

- *How resources or an environment are utilized,*
- *How problems and opportunities are evaluated and analyzed,*
- *What behavior is deemed acceptable or forbidden, and*
- *What rules and sanctions are applied to affect how natural resources are distributed and used?*"

Governance is founded in and expressed by three main mechanisms –markets, government, and institutions and arrangements of civil society (Juda, 1999; Juda and Hennessey, 2001; Midttun, 2005; Olsen *et al.*, 2006; Young *et al.*, 2007)– interacting among themselves "through complex and dynamic" processes that are assessed, contrasted and documented in the Governance Baseline (Olsen *et al.*, 2009) [Fig. 4]. Clearly depicted in Diego Rivera's *The Tlatelolco Market* fresco mural painting and already present in pre-Columbian American societies (Fig. 4), such three governance mechanisms alter nowadays patterns of behavior through the Expressions of Governance, which major expressions are summarized in Table 5.

Table 5: Major Expressions of Governance

Government	**Marketplace**	**Civil Society** (Organizations & Institutions)
- Laws and regulations - Taxation and spending policies - Education and outreach	- Profit seeking - Ecosystem service valuation - Cost-benefit analysis - Eco-labeling and Green Products	- Product choices - Advocacy and lobbying - Vote casting - Co-management - Stewardship activities

Source: Olsen *et al.*, 2009

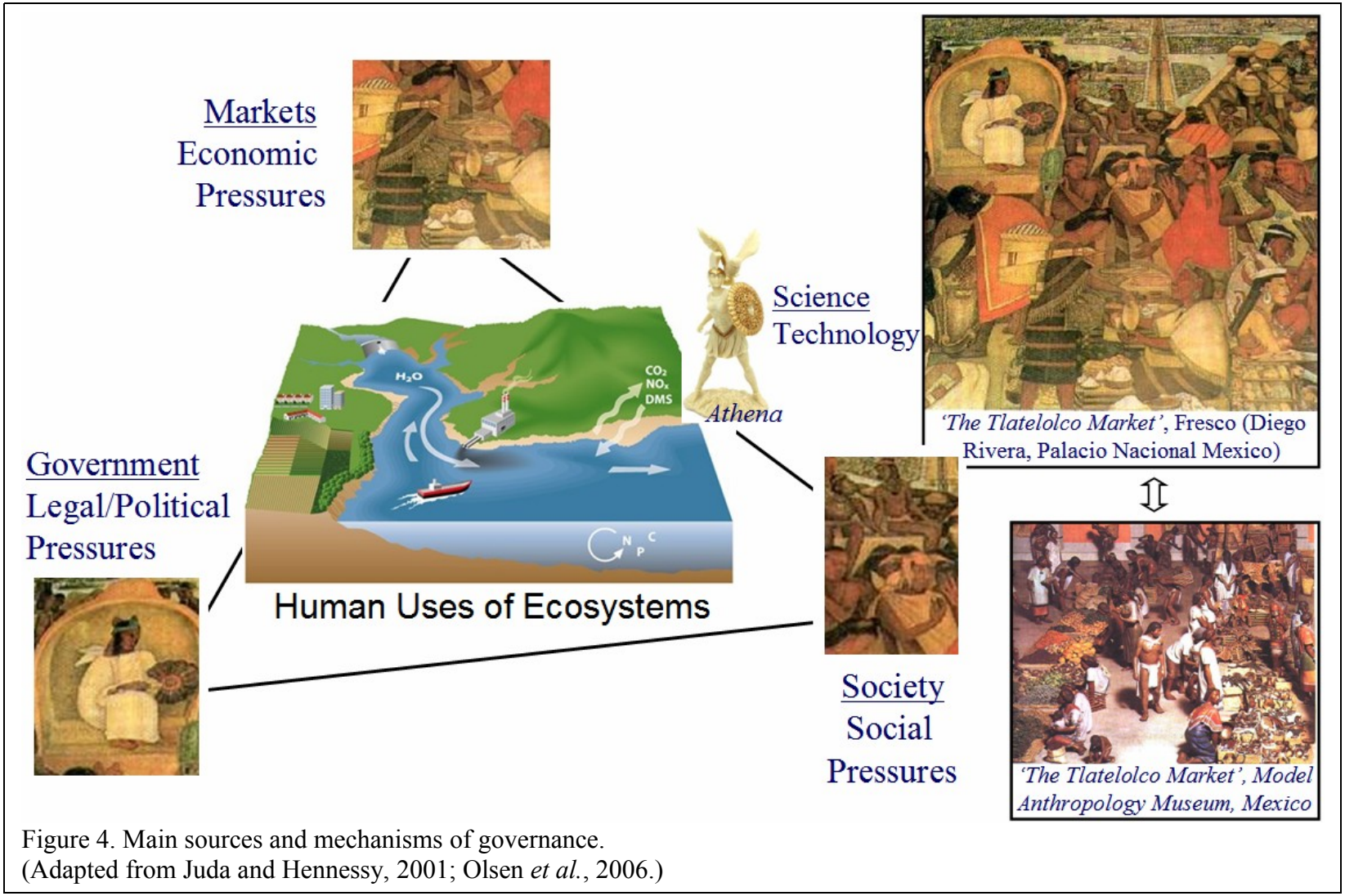


Figure 4. Main sources and mechanisms of governance.
(Adapted from Juda and Hennessy, 2001; Olsen *et al.*, 2006.)

2.3. Overview of the evolution of coastal governance in Latin America

Marine issues have been relevant in Latin America since the colonial time, when ships were the sole means for trans-Atlantic trade and for carrying America's resources, mostly silver and gold, to Europe; nonetheless, it was until 1947 when Chile made the first ever claim of jurisdiction over a maritime area, 200 nautical miles from its coast (Pontecorvo, 1986). According to him, posterior similar claims done by Ecuador and Peru led in 1952 to the first American multilateral instrument on marine issues, the Santiago Declaration on the Maritime Zone, and to the creation of the Permanent South Pacific Commission. Such Declaration paved the way for the United Nations Conferences on Law of the Sea (1958) and its resulting Law of the Sea that was opened for signature in 1982 and provided the international foundation for "managed oceans" (Mawdsley, 1986).

During the 1960's and 1970's, the Inter-American Development Bank (IDB) financed on request of the governments of the region a series of projects on fisheries, infrastructure development, the first international tourism resorts (Mexico and the Dominican Republic), and much of the basic sanitation infrastructure in coastal cities such as Rio de Janeiro, Brazil, and Montevideo, Uruguay (Lemay, 1998). Associated with the United Nations Conference on the Human Environment (Stockholm, 1972), also during the 70's there was a series of law amendments in Latin America tending to develop national environmental policies and laws to enforce such policies and to protect several natural resources (Brañes, 2001).

Due to coastal landslides, fisheries problems, maritime disputes, shipping casualties and spills, the coastal management efforts –the *coastal governance* concept was not developed until 1998– during the 1980's focused on coastal erosion prevention,

establishment of marine protected areas, evaluation of impacts on the coastal area and control of marine pollution, restoration of marine water quality and mangroves (UNEP, 1983; Lemay, 1998).

The next cornerstone in coastal an marine management issues not only in the region, but worldwide, was the Earth Summit and the resulting Agenda 21 (1992); which Chapter 17, *Protection of the Oceans, all Kinds of Seas, Including Enclosed & Semi-enclosed Seas, & Coastal Areas & the Protection, Rational Use & Development of their Living Resources*, provided the basis for integrated management and sustainable development of coastal areas, including exclusive economic zones, and for marine environmental protection, stressing, additionally, the need to apply scientific knowledge to coastal management. Also, according to Brañes (2001), related to the commitments reached at the Earth Summit, during the 90's most Latin American Environmental Ministries were created.

By 1993, according to Sorensen (1993), 10 out of the 18 independent countries with coastal zone in Latin America –Argentina, Belize, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Honduras, Mexico and Venezuela– had implemented Integrated Coastal Management; although his criterion for acknowledging those ICM initiatives was " programs or projects that were directed by the national government either to manage all or most of the nation's coastal zone or done as pilot programs in a relatively small percent of the nation's entire coastal zone". However, very often the ICM initiatives did not have the duration needed to bring results, as most of them did not pursue after the implementation phase (GESAMP, 1996).

Coastal and marine issues were introduced into the Meso-American Biological Corridor, a series of protected areas from Mexico to Panama to alleviate poverty and

improve quality of life through integrated management and sustainable development in 1997 (Windevoxhel *et al.*, 1999).

In 1998, 22 countries of Latin America and the Caribbean were involved in ICM, mostly in resources conservation, coastal tourism and fisheries; but only 5 of these programs were able to influence the decision-making process, including the Initiative of Coastal Area Management in Belize, and the Coastal–Marine Programme of Costa Rica (Escobar, 1999; Andrade and Escobar, 2002), Additionally, most international organizations with presence in Latin America explicitly recognized in 1998 the need for a *new focus*, that is, to "support the conservation and management of the region's maritime resources" by assisting the governments in establishing social and economic tailored programs for the integrated management of their coastal and marine areas (Lemay, 1998). The new strategy envisioned economic growth by:

- contributing to stability and overcoming costly inter-sectorial problems i.e. competing activities from tourism, maritime transport and fisheries;
- the efficient and equitable allocation of coastal and marine resources;
- creating incentives for the effective management and protection of coastal and marine ecosystems; and,
- *promoting strengthened, participatory governance of coastal and marine areas.*

Within the new framework, several *innovative* features were introduced to the projects and programs that the bank would implement (*i*) Coastal Management as an Integrating Framework for Investment and Resource Allocation, that is, the funding would be allocated relying on ICM concepts; and (*ii*) Coastal and Ocean Governance. This late feature (1998) was *Latin America's first step towards coastal and marine governance*, and consisted mainly in the introduction of economic value of coastal and

marine resources to stakeholders such as government bodies, the private sector, and non-governmental organizations (Lemay, 1998).

Along with the region's lack of awareness of the role that coastal and marine heritage had to the national economic welfare, other addressed issues were creating capital for Integrated Coastal Management and strengthening human and institutional capacities. Although efficient within their scope, the sectorial governmental bodies lacked of institutional instruments to properly mobilize resources for ICM; very often, more than 10 different institutions looked at marine and coastal issues –each with its own level of priority– impacting on the decision-making process, creating duplication of efforts and sectorial integrations at macroeconomic level that mostly always neglected ICM (UNEP-CAR/RCU, 1999). Nevertheless, stakeholders are already involved in the decision-making process, consultations are carried out, and sectorial integration is a goal. Even more, by 2000 local governance is in the process of been forged through a wide net of private and governmental actors, NGOs (Wilson, 2000).

Since then numerous bilateral and multi-lateral cooperation agreements for marine and coastal zones have been developed ranging in focus from pollution control to technology transfer carried out by national, regional and local governments and/or international institutions and organizations such as the Swedish International Development Agency (SIDA), PROARCA/EcoCostas, The Nature Conservancy (TNC), World Wide Fund for Nature (WWF), USAID, and the Coastal Research Center of the University of Rhode Island .

Although nowadays, the marine problems are still often tackled as in 2002 through sectorial activities such as fisheries, transports, defense or conservation, which is also reflected in the absence of planning in relation to the carrying capacities of the coastal and marine ecosystems, according to UNEP's *Global Environment Outlook*

GEO 4, Environment for Development (2007), Latin America's main coastal zone challenges are urban growth, biodiversity threats, coastal damage and marine pollution, and vulnerability to climate change. Following Rivera-Arriaga (2005), coastal private investments are most frequently restricted to specific countries and sectors with high-profit margins i.e. tourism in the Caribbean, and the Development of the Latin American coastal zone will continue depending on foreign resources until the region build the capacity to create and mobilize domestic resources. However, marine issues are now given a higher priority in many nations, there are good examples and models of countries making progress in ICM where integration is lead by coordinating or facilitating agencies, some national programs such as the Mexican National Fishing Plan and *Zona Federal Maritima Terrestre y de Terrenos Ganados al Mar* already include cross-sector environmental strategy for ICM, an the current strategy of the international bodies funding projects in the regional is "strengthening governance through assistance to strengthen institutions and then moving towards increased reliance on country systems" (Cox, 2009).

According to Jose Manuel Insulza, Secretary General of the Organization of American States (Insulza, 2009), "growth, employment generation, the provision of certainties for investors, the problems of poverty, discrimination, and crime are all issues that can be solved by enacting and democratically implementing effective and efficient public policies that take into consideration the views, participation, and rights of all. To be equal to that task, however, governments in Latin America still need to develop certain capabilities that are necessary preconditions for good governance". In these consists the *good governance challenge.*

2.4. Governance Baselines

2.4.1. Recognition achieved

The Governance Baselines methodology is "already recognized by international organisms interested in environmental and development issues –The World Bank, 2006; PNUMA, 2006; AVINA, 2007–, by the community of nations –Beijing World Summit, October 2006, Second Intergovernmental Review Meeting of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA)– and by the academy –GESAMP, 1997; the National Academy of Sciences (NAS) in the United States of America, 2008–" (Ochoa, 2008).

Also used by several national and local institutions, organizations and coastal managers in Latin America and the Caribbean, this methodology transcends the Western Hemisphere; lessons and good practices derived from its success in the region have been recognized and implemented into the formulation of the national coastal management policies and programs of South Africa and Tanzania (Hale *et al.*, 1998) and in some Southeast Asian countries, such as Philippines at a regional level (McManus, 1995).

Olsen *et al*. (2009) state that the Governance Baseline methodology has proven exceptionally useful in "programs and projects in places where the ability of government to regulate and direct the processes of ecosystem change is weak or severely constrained".

2.4.2. Brief description

> *"The continuing losses in the goods and services that can be generated by coastal ecosystems –such as firewood from mangroves or living space in shallow– is an expression of a widening gap that separates research, planning, and declarations of intent from the achievement of stated goals; an implementation gap."*
>
> (Olsen *et al*., 2009)

> "*Place-based management of marine ecosystems offers a constructive means for dealing with the uncertainties associated with complex, heterogeneous, and dynamic systems."*
>
> (Young *et al*., 2007)

Governance Baselines are a place-based management methodology that provides *i*) a reference point for assessing future environmental and societal changes in an ecosystem's condition, and *ii*) the actions of a program that can be measured and assessed aiming to build on and foster the existing governance strengths and to reduce its weaknesses. Thus, a Governance Baseline is composed of two parts: the first one documents and assesses the response –or lack of it– of a governance system to changes in the ecosystem; the second one outlines a strategic approach to design a new program, or adapt the existent, to address the ecosystem management issues, therefore, providing the foundation for the practice of adaptive governance in response to the ecosystem changes of the place (Fig. 5) [Olsen *et al.*, 2006; 2009].

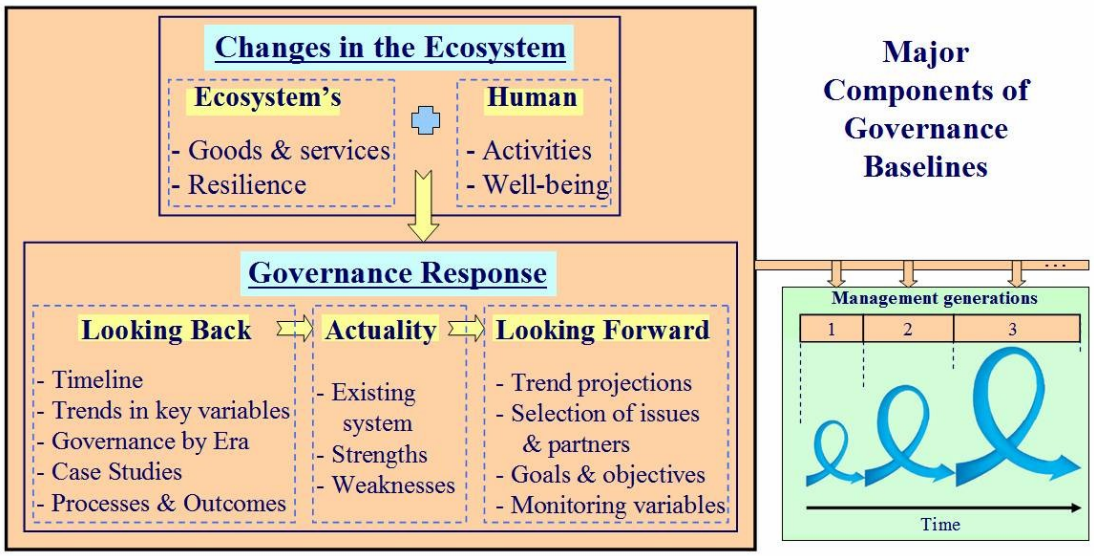


Figure 5. Major components of Governance Baselines. *Part One*: Looking Back & Actuality; *Part Two*: Looking Forward.
(Adapted from Olsen *et al.*, 2009, p. 19)

As prompting and accomplishing changes in how coastal ecosystems are utilized and how conflicts among social groups are addressed –that is, the implementation of an ecosystem-based program– must aim at nurturing changes in human behavior, governance baselines achieve more sustainable forms of coastal development by:

- encouraging a long-term perspective;
- involving interdisciplinary groups of people; and,
- engaging governmental bodies, businesses, non-governmental groups and academics.

A timeline (Fig. 5, Governance Response, Looking Back) documenting *i*) the allocation of power and influence, and *ii*) the evolution of the relationships between institutions with the pressure-state-response model (Table 6) enlightens the overall long-term perspective.

Table 6: Pressure-State-Response Model for documenting a timeline	
Entry	*Description*
Pressure	Internal or external events or forces that are believed to have contributed to changes in the state of the system *Examples:* a war, a flood, a change in the market price for a commodity, political change, greater access to the area and its resources.
State	Magnitude, condition or change in natural, social and environmental variables *Examples:* population size, annual fish catch, disease outbreak, estimated area of sea-grass beds, increased income, reduced infant mortality.
Response	Governance actions related to a pressure or a change in the state of the system *Examples:* a new law or regulation, creation or change in the structure or behavior of an institution, provision or removal of subsidies, new or intensified forms of resource exploitation.
Source: Own elaboration with information from Olsen *et al*., 2009.	

The Management Cycle assesses the processes of ecosystem management by establishing the degree to which a generation, or generations of governance completed the steps in such cycle; by measuring the success of a program in bridging between planning and implementation; and, by looking for linkages between generations of governance. Ideally, the ecosystem governance would have evolved as a process of sustained learning and adaptation that proceeds through cycles with recognizable steps as a society works to achieve its goals over time.

However, numerous programs integrated by sound processes with appropriate participation, competent staff and sustained governmental support have not been effective due to societal and environmental causes. The Orders of Outcomes framework focuses on the perception, achievement and expected outcomes on the societal and environmental elements, classifying them into four orders –succinctly depicted in figure 6, but thoroughly described in Olsen *et al*. (2009), *The Analysis of Governance Responses to Ecosystem Change. A Handbook for Assembling a Baseline*. LOICZ Reports and Studies No. 34–, consequently, complementing the management cycle.

The four 1st Order Outcomes, or institutional outcomes, correspond to enabling conditions for the sustained practice of ecosystem-based management, that is, 1) unambiguous goals, 2) constituencies, 3) formal commitment, and 4) institutional capacity. The 2nd Order refers to conduct and use changes in government bodies, markets and the civil society stakeholders exploiting, benefiting and/or affecting the ecosystem conditions; of these outcomes, such as sustainable funding, depend the programs' full scale implementation over the long term. The 3rd Order Outcomes are the achieved environmental and socioeconomic benefits, and accomplishing several 3rd Order goals leads to sustained development and courses of action, the 4th Order.

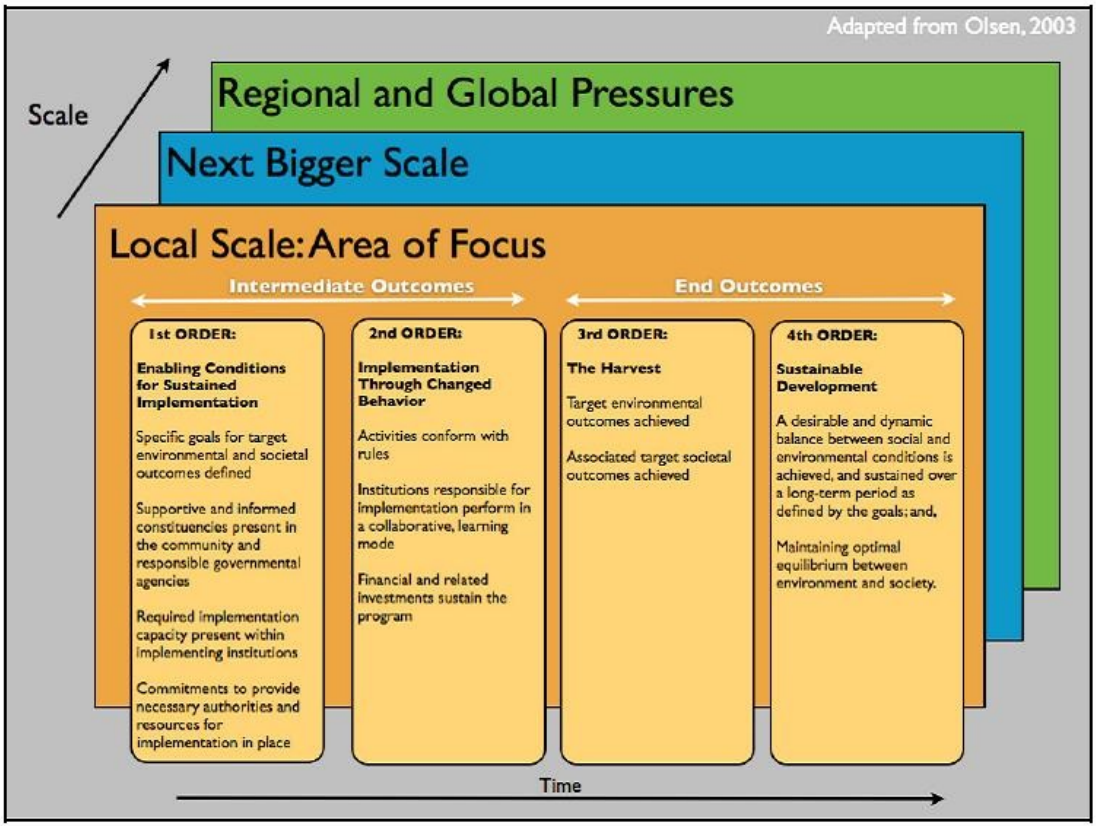


Figure 6: The Orders of outcome.
(Olsen *et al.*, 2009, p. 34)

Moreover, according to Olsen (2003), the success of (ICM) management efforts tends to be determined by the extent to which such initiatives are able to produce and integrate institutional –1st Order– outcomes leading to conduct and use changes in the behavior of institutions, individuals, groups, businesses and investments – 2nd Order–; because these 2nd Order outcomes are the essence and drivers of environmental and socioeconomic benefits –3rd Order outcomes–.

2.4.3. Places in Latin America where used successfully

Sponsored by the AVINA Foundation, LOICZ, IAI and USAID, figure 7 shows the sites in which the Governance Baselines methodology has been successfully implemented in protected areas, urbanized coasts, and rural, multiple use estuaries in 9 Latin American and Caribbean countries in the Pacific and Atlantic Oceans, as well as in the Caribbean Sea.

Figure 7. Implemented Governance Baselines.
(Own creation with information of Olsen, 2009).

III. METHODOLOGY

Although there have been thousands of coastal planning and management projects and programs worldwide –Latin America is not the exception–, there are only a few documented successful cases of applied ecosystem approach to coastal management (GESAMP, 1996; Olsen *et al.*, 2009). Any 'documented successful case of coastal management' necessarily requires: 1) the existence of the project or program; 2) its success; and, 3) publication. Each of which, in their turn, should have fulfilled previous requisites almost always difficult to achieve, such as political, social and economical commitment and funding over the years –the results of coastal management efforts with an applied ecosystem approach tend to be tangible after several years–; available, reliable scientific and technical data for the decision-making process; willing, capable managers and policy-makers integrating science into day-to-day decisions while balancing multiple, legitimate, sometimes conflicting interests; and, documenting the outcomes, among others. Publishing seems the easiest part; however, it requires the will to share, the ability to do it in a clear, useful way –the audience defines the report–, and either the infrastructure, i.e. a website, or the means to compete to publish in peer review, national or international journals which again refers to funding and highly qualified scientific human resources. Moreover, as Tarifeño (2002) states, classified as *less developed* nations due to belated social and economical development and to political instability, all Latin American countries have primarily focused on addressing social matters such as safe drinking water, health, housing and basic education before investing in science and universities, resulting in shortages to attend the country's research and development needs. Therefore, the most available information on Latin American coastal management efforts is generally produced by governments,

international organizations, the academy and NGO's –which does not imply the inexistence of other sources, but limitations on their broadcast scope– mainly in formats: reports and statements; which may contain opposing opinions and/or perceptions on the same issue. 'Statements' are punctual facts or assessments at a certain time; while 'reports' assess over time, declare objectives and outcomes, and include at least an initial and a final 'statement'.

Thus, aiming to identify and synthesize the evolution of approaches to integrated coastal management (ICM) in Latin America, and to put into such context the Governance Baselines methodology, the first issue that has to be considered is information itself, which might rely on differing definitions or be incomplete, even biased. Both reports and statements are used in this thesis; however, the reports are far more useful for this thesis' purposes. Not intended as a thorough analysis of every coastal management effort in Latin America, but unwilling to make simple generalizations to depict such context-based efforts in a highly diverse region, this master's thesis studies the coastal management programs of 6 out of 18 Latin American nations with coastlines, mostly at regional and national levels, although relevant local projects are also addressed, as well as bilateral and multilateral ones, and some implementing the Governance Baselines methodology.

The criteria to select these countries (Table 7) also include the outcomes, evolution path, and starting time of their coastal management projects, as well as geographic, environmental and socioeconomic factors, even a couple of political ones in terms of objectives and choices. Additionally, Table 8 contains socioeconomic data on the selected countries.

Table 7: Selection criteria of the addressed Latin American Coastal Management (CM) Efforts in this thesis								
Country	**Sub-region (countries with coasts)**	**Country's place within the sub-region by**			**Country's place in Latin America by (1000 x Rate Coast/territory)**	**Coastal and marine ecosystems' conditions ****	**Applied Governance Baselines?**	**Additional criteria** *to socioeconomic reality (Table 8)*
		Coasts length [km]	*Territory* [km2]	*Population* [millions]*				
Mexico	North America (1)	**1** / 1 (11,592)	**1** / 1 (1,964,375)	**1** / 1 (111.21)	**9** / 18 (4.75)	10% Degraded, 19% Severely degraded [A]	Yes	- Several realities within a country - Sorensen reported ICM by 1993
Costa Rica Nicaragua Panama	Central America (7)	**2** / 7 (1,376)	**5** / 7 (51,100)	**5** / 7 (4.25)	**2** / 18 (25.24)	Degraded [B]	Yes	- Strategy 2008 - Civil society participation - Sorensen reported ICM by 1993 - Academy identified vs. government recognized issues
Panama		**3** / 7 (923)	**1** / 7 (130,370)	**4** / 7 (5.89)	**8** / 18 (6.98)	Severely degraded [C]	Yes	- Poverty - No specific focus on ICM issues
Panama		**1** / 7 (2,988)	**4** / 7 (75,420)	**6** / 7 (3.36)	**1** / 18 (33.02)	Severely degraded / endangered [D]	No	- ICM scenarios & political choices - Multilateral ICM project - "Scatter" ICM evolution path
Argentina Uruguay	South America (10)	**2** / 10 (4,989)	**2** / 10 (2,780,400)	**3** / 10 (40.91)	**18** / 18 (1.79)	Deteriorating [E]	Yes	- Bilateral ICM project [+] - "Lattice" ICM evolution path - Sorensen reported ICM by 1993
Uruguay		**8** / 10 (660)	**8** / 10 (176,215)	**7** / 10 (3.49)	**10** / 18 (3.75)	Increasing deterioration [F]	No	- Bilateral ICM project [+] - "Angle" ICM evolution path
* *Coastal population* would have been a better criterion; lacking of it, a lesser relative weight was given to this criterion. ** The conditions of the coastal and marine ecosystems are further analyzed in Table 9.								
Sources: Tables 1. **A:** SEMARNAT-PNUMA, 2004. **B:** MINAE-PNUMA, 2002; CIZEE-CR, 2008. **C:** MARENA - PNUMA, 2004; MARENA website. **D:** ANAM-PNUMA, 2009. **E:** PNUMA-ORPALC and SADyDS, 2004. **F:** PNUMA, 2008.								

Table 8: Socio-economic factors in selected Latin American countries.							
Country	**Literacy (age 15)**	**UNDP's classification* [Human Development Index]**	**GDP per capita [USD] (estimated, 2009)**	**Unemployment (estimated, 2009)**	**Population below poverty line (2006)**	**Household income/consumption by percentage share**	
						Lowest 10%	Highest 10%
Mexico	91.0%	*High* (0.850–0.899)	13,200	6.2% + 25.0% underemployment	18.2% (food-based definition) 47.0% (asset-based poverty)	1.7% (2006)	36.3% (2006)
Costa Rica	94.9%	*High* (0.850–0.899)	11,300	6.4%	16.0%	1.5% (2005)	35.5% (2005)
Nicaragua	67.5%	*Medium* (0.650–0.699)	2,800	5.9% + 46.5% underemployment	48.0%	1.4% (2005)	41.8% (2005)
Panama	91.9%	*High* (0.800–0.849)	11,900	7.1%	28.6%	0.8% (2006)	41.4% (2006)
Argentina	97.2%	*High* (0.850–0.899)	13,800	9.6%	13.9% official (2009) 30 - 35% non-official (2009)	1.0% (2007)	35.0% (2007)
Uruguay	98.0%	*High* (0.850–0.899)	12,600	7.9%	27.4%	1.7% (2006)	34.8% (2006)
* Although every Latin American nation is classified as a *Developing* or *Less developed* country, a sub-classification into *High* and *Medium human developed* nations is made by UNDP (Fig. 2, Table 2). Moreover, the Human Development Index further divides such sub-classification as the Panamanian case shows.							
Sources: UNDP, 2009. Central Intelligence Agency, 2009.							

The previous selection of countries allows comparing Integrated Coastal Management efforts in Latin America:

- Geographically:
    - There are representatives of Latin American countries in North, Central and South America.
    - The selected countries represent big, medium and small countries in terms of territory, coast length and population within the region and by sub-region.
- Environmentally:
    - Through documents jointly produced by the national governments of each country and the United Nations Environmental Programme, simplifying the comparison process;
    - In several coastal and marine environment states: deteriorating, degraded, severely degraded, endangered;
    - From the "Regional referent on conservation issues and natural resources management" in Argentina (GEF, online), to "increasing international concerns" in Panama (ANAM-PNUMA, 2009), and inexistent information in Nicaragua (MARENA - PNUMA, 2004).
- Socio-economically:
    - Being all Latin American countries *less developed* nations, the selection covers the whole scope from less wealthy to poorest.
    - Within a same country, given that from place to place within Latin American nations it is not unusual to find very different contexts.

- By the roll of the major expressions of governance (government, markets and civil society):
    - Governance Baselines
    - Civil society participation
    - Academy identified vs. government recognized issues
    - No specific focus on Coastal Management issues
    - ICM scenarios, strategy and political choices

Likewise, the Integrated Coastal Management programs and projects are assessed by synthesizing 'statements' and 'reports' by country in Annexes 3 to 7, classifying the outcomes of projects and programs in terms of their integration of the Four Outcome orders –explained in a previous section– and that of their indicators, and addressing in chapters IV, *Approaches to Coastal Governance in Latin America*, and V, *Case Studies*, the following 4 questions:

1) Which have been the major coastal issues addressed?

-Environmental issues?

- Social Issues?

- Governance issues?

- At what scales has ICM been applied?

2) Which was the focus of the program?

- Was the focus environmental, societal or both?

- Role of government.

- How have civil society and markets contributed to shaping ICM programs?

3) How have the programs evolved over time and/or by geography?

- *Advanced in terms of the 5 steps of the management cycle and through generations of management;*
- *Is there experience and knowledge transfer from one generation to another?*
- *Is an adaptive, learning-based management model applied?*

4) What can be deduced from the outcomes of the ICM projects and programs?

- *What institutional arrangements and governance processes are proving effective?*
- *What are the critical factors to sustaining such programs over the decades?*
- *What are the environmental and societal outcomes that can be attributed to ICM programs and projects?*

Thus, by means of the selected countries:

→ The evolution of approaches to Integrated Coastal Management (ICM) in Latin America can be identified and synthesized;

→ This thesis proposes the *S.A.L.M. ICM evolution path classification*;

→ An example of each *SALM* Integrated Coastal Management evolution path in Latin America is presented; and,

→ The Governance Baselines can be put into the context of the evolution of integrated coastal management approaches in Latin America.

IV. APPROACHES TO COASTAL GOVERNANCE IN LATIN AMERICA

This chapter is the first of two that develop the answers to the four questions posed in the previous one. In addition to addressing governance issues, it identifies the evolution of approaches to Integrated Coastal Management in Latin America and proposes the *SALM ICM evolution path classification*, a categorization of ICM efforts based on observations derived from the preparation process of this thesis.

4.1. State, economic aspects and priority issues in the coastal zone

Definitions based on different criteria, a largely discussed theme only mentioned in this thesis for its implications to coastal management and governance approaches, occur between individual Latin American countries and international organizations and among countries. For instance, a different definition could mean varying amounts of *threatened* species –i.e. the *2004 IUCN Red List of Threatened Species* includes 24 Mexican marine species, whereas Mexico considers more than 60 [6]–, or even the limits, and consequently, the size of the marine-coastal zone –i.e. Costa Rican coastal zone limits are 200 m from the average high tide, the Brazilian ones are 2 km, the Ecuadorian vary according to cases; and, Nicaragua follows a river basin definition (Windevoxhel *et al.,* 1999)–. Therefore, in a homogenization attempt, a series of recent UNEP publications were used to compile information on the state, economic aspects and priority issues in the coastal zone of the selected Latin American countries (Table 9).

[6] As the information regarding Mexico's threatened species dates from 2004, the IUCN list of the same years was used. Mexico's list include 40 marine mammals, the 7 marine turtle species, 16 marine invertebrate species and 185 fish species, including the fresh water species.

All six analyzed countries recognize that their costal zone is accountable for an important share of their economy (Table 9), which, according to Espeut (1998), is not a surprise given that coastal zones tend to have more renewable resources and tourism potential than inland zones, particularly in "tropical and semi-tropical zones within which the great majority of the developing nations are situated." Following this sole idea, Panama and Nicaragua –both tropical countries– should have better costal environmental conditions than Argentina and Uruguay –situated southwards of the Tropic of Capricorn–. Contrarily, while Argentina and Uruguay do not report loss of habitats, and focus on algal blooms, exotic species and eutrophication; Panama and Nicaragua state that their ecosystems are being destroyed (Table 9). As the geographical factors are analogous[7] and only Argentina of all four countries had an ICM program by 1993 (Sorensen, 1993), the difference in the state of their coastal zone environment must be due to its use –or misuse– during the last two de decades. This argument seems to be supported by the Mexican case, which coastal zone issues include algal blooms and eutrophication as well as habitat loss, being the late one, according to Mexican authorities (SEMARNAP-PNUMA, 2004), mostly focalized –about 30% of the Exclusive Economic Zone (EEZ)– near to the non-homogeneous distributed fishing efforts[8], to coastal and offshore oil-industry facilities and to tourism developments. Mexico addressing simultaneously first –i.e. habitat loss– and second –i.e. algal blooms, exotic species and eutrophication– generation issues also acknowledges differing coastal contexts within a same country, as tends to be with the socioeconomic and political ones in whole Latin America.

[7] Coastal length (km): Argentina (4,989), Panama (2,988); and, Nicaragua (923), Uruguay (660).
Territory (km2): Uruguay (176,215), Nicaragua (130,370), Panama (75,420).
Population (millions): Nicaragua (5.89), Uruguay (3.49), Panama (3.36).

[8] 70% of the shrimp- and 78% of the tuna-fishing fleets in the Mexican Pacific work in the Gulf of California; most of the shrimp catching efforts in the Gulf of Mexico are in Tamaulipas and Campeche. Most Mexican fishing vessels are devoted to the shrimp industry (SEMARNAP-PNUMA, 2004).

Table 9: Coastal and marine environment in selected Latin American countries: state, economic aspects and priority issues.						
Country	**Uruguay [A]**	**Argentina [B]**	**Panama [C]**	**Nicaragua [D]**	**Costa Rica [E]**	**Mexico [F]**
State of the environment						
Overall	*Rising deterioration*	*Deteriorating* *	*Severely degraded / endangered* **	*Severely degraded*	*Degraded*	*10% Degraded,* 19% *Severely degraded*
Pollution	Yes	Yes	Yes	Yes	Yes	Yes
Fauna	Not stated	Marine fauna degradation	Reduction of the number of species	Possible extinction of species [+]	Not stated	24 threatened species; endemism estimation
Habitat loss	No	No	Yes	Yes	Not stated	Yes
Marine protected areas	14 in 8 categories	Key guideline	24 in 17 categories	Less than 5	56% of all its coasts	Key issue, at least 53
Other issues	- Algal blooms - Eutrophication	- Algal blooms - Exotic species	Not stated	Not stated	Not stated	- Algal blooms - Eutrophication
Economic aspects						
Economic importance	Marine departments accountable for 75% of the national GDP	Highly productive	National economic growth due to tourism and real-states in it	Third most important source of the national income	Not quantified; houses the most important commercial activities	Special importance: "motor of the regional development"
Overexploitation	Yes	"Signs of [it]"	Yes	Yes	Yes	Yes
Catch decline (volume & specimen size)	Generalized	Generalized	Generalized	Not stated	Generalized	Generalized
Other anthropogenic pressures considered as a priority						
Tourism	Yes	Yes	Yes	Yes	Yes	Yes
Urbanization	Yes (Legal & illegal)	Yes	Yes (Legal & illegal)	Yes	Yes	Yes
Fishing & aquaculture	Yes	Yes	Yes	Yes	Yes	Particularly important
Navigation and ports	Yes	Yes	Yes	Not stated	Not stated	Not stated
Mining	Sand mining	Not stated	In general	Not stated	Not stated	Not stated
Industry (including oil)	Yes	Yes	Yes	Not stated	Not stated	Yes
Land related	Erosion, sediment flow interruption	Agriculture	Wetland and mangrove cutting and burning	Agriculture, mangroves burning	Wetland and mangrove cutting	Agriculture, sediment flow, deforestation

* "The Patagonian Coastal Zone Management Plan has a constant presence on the media as a regional referent on conservation issues and natural resources management" (GEF, online).

** There are increasing international concerns due to mangrove cutting; while interests within the country press to increase the productive areas by such means.

[+] The Nicaraguan Ministry of the Environment and Natural Resources (MARENA) states that the information regarding this issue does not exist.

Sources: **A:** PNUMA, 2008. **B:** PNUMA-ORPALC and SADyDS, 2004. **C:** ANAM-PNUMA, 2009. **D:** MARENA - PNUMA, 2004. **E:** MINAE-PNUMA, 2002; CIZEE-CR, 2008. **F:** SEMARNAT-PNUMA, 2004.

If, on the one hand, most Latin American largest cities are coastal and their sustained growth produced large environmental impacts in the coastal zone (Tarifeño, 2002); on the other hand, as land resources become exhausted or less valuable, Latin American countries also started integrating such zones into their development plans (i.e. the fisheries and aquaculture booms) during the 1990s, exacerbating the environmental impacts and increasing pressure to address. In addition, Latin American countries and international organizations, such as UNEP and GEF, consider coastal resources as essential to their economic and social development programs, and integrated coastal zone management as the means to integrated planning and resource management, whether implemented/achieved or not, because as Tarifeño (2002) states, the complex relationship between the social, economic, cultural and environmental elements influencing the sustainable use of the coastal system obligates a holistic and multidisciplinary approach.

Moreover, (integrated) coastal zone management approaches are heavily influenced by socioeconomic stakeholders, paradigms, perceptions and factors, as well as by technology and information availability, all of which depend on the evolution of the integrated coastal management approaches in each country. All countries facing the same pressures (Table 9), the reasons for Argentina, Mexico and Uruguay focusing on second generation matters –i.e. algal blooms, exotic species, and eutrophication– and mostly[9] not suffering loss of habitats, while Panama and Nicaragua still struggle to avoid the destruction of their environments are: 1) socioeconomic[10], 2) land related

[9] Mexico reports some 29% degraded or severely degraded; thus, leaving 71% out of that groups.

[10] Argentina, Mexico and Uruguay are wealthier, more educated and less inequitable –for the region standards– than Panama and Nicaragua. (Fig. 2; Table 2; Table 8: PIB per capita, Literacy, and Household income or consumption by percentage share - Highest 10%).

pressures which refer again to socioeconomic realities[11], and 3) the actual state of their coastal zones, directly linked to the evolution of their respective (national) ICM approaches; which, as Mexico's case show, also depend on the context of the places within the country.

Except from some traits –i.e. Panama focuses on security issues due to the Panama Channel operation–, most Latin American ICM approaches address the same issues regardless of their coastal zone's environmental state, and the top used arguments for implementing an ICM approach, project or program are economic (Table 10).

Table 10: Most used arguments for implementing ICM, and most ICM addressed issues in Latin America

Most used arguments for implementing ICM	Most addressed issues
- Maintaining fisheries productivity - Developing aquaculture - Increasing tourism revenues - Sustaining mangrove forestry - Avoiding the costs associated to natural disasters	- Pollution - Tourism - Urbanization - Fisheries overexploitation - Biodiversity reduction - Deforestation - Navigation - Mining - Land related
Sources: Table 9, and Annexes 3 to 7.	

4.2. ICM evolution paths in Latin America

4.2.1. Maturity and challenges

The ICM efforts in Latin America started or started to receive serious attention in the 1990's due to international commitments, external cooperation or aid programs and projects. By 1993, Sorensen (1993) identified running ICM projects in Argentina, Costa Rica[12] and Mexico; nonetheless, he also clarified the used criterion for labeling

[11] Panama and Nicaragua suffer of continuous illegal wetland and mangrove cutting and burning; whereas Argentina and Uruguay do not. Such practices are need- and 'agriculture-knowledge' driven.

[12] The Law of the Marine Terrestrial Zone (1977) enacted the Costa Rican Coastal Management Program.

them as running: “those programs or projects that were directed by the national government either to manage all or most of the nation's coastal zone or done as pilot programs in a relatively small percent of the nation's entire coastal zone.” He also explained that his *The International Proliferation of Integrated Coastal Zone Management Efforts* intended to enhance an information exchange framework, “particularly for new entrants in the field in benefit from the experience of their predecessors.”

Although Windevoxhel *et al.* (1999) statements on Integrated Coastal Management efforts at national level being limited by “lack of [scientific] information, restricted technical and financial resources, and sectorialism” as well as by “lack of political will and organizational structure” focused in Central America and multinational scale respectively, such causes tend to reproduce all over Latin America and until now, as Tables 9, 11 and 12 and Annexes 3 to 7 show. Table 11, based on the current Costa Rican reality, presents a comprehensive list of addressed and remaining issues in Latin America; most issues in it –compared with Table 9– are still true, at varying extents, for most Latin American countries, however traits of which insufficient evidence to be considered common in the region are marked with an asterisk (*).

Contrasting the academy identified issues and the government recognized ones, there are coincidences –i.e. overlap of governmental agencies’ responsibilities–, different points of view –i.e. poor institutional coordination vs. conflicting authorities–, points in which the government goes beyond the academy –i.e. recognizing a lack of transparency towards the civil society–, and issues not addressed (in the reports) –i.e. illegal occupation of the coastline–; however, these situations could be due to the addressed subjects in the papers or reports, and, thus, to their points of view. Additionally, it is evident that governments tend to know how the situation is, as they

also tend to recognize when they do not or when they lack of information –i.e. Nicaragua regarding the state of its marine fauna (MARENA - PNUMA, 2004) –.

Table 11: Academy identified and government recognized issues regarding the Costa Rican ICM approach

Academy identified issues	Government recognized issues
2006 - Lack of cooperation and coordination between national institutions and neighboring countries - Coastal policy focused on conservation and ecotourism - Mono-crop tourism in several areas - Lack of an integrated management of coastal data for the decision-making processes - Few territorial planning / ordinance - Profits-decreasing artisanal fishing - High poverty and lack of social support - Illegal occupation of the coastline **2009** - Fragmented competencies and limited capacity - Overlap of governmental agencies' responsibilities and at different government levels - Conflicting authorities - The National Strategy for the Integrated Management of the Marine-Coastal Resources of Costa Rica is not yet approved *	**2008** - Poor environmental normativity enforcement - Lack of appropriated and integrated normativity - Existence of obsolete rules and legal gaps - Lack of transparency towards the civil society - Multiple institutions devoted to managing coastal and marine resources - Poor institutional coordination and overlapping responsibilities. - Insufficient financial, technical and human resources - Lack of territorial ordinance. - Lack of basic infrastructure for maintenance, inspection, storage, tourism and rescue activities. - Lack or inaccurate technical and scientific information - Lack of goals and of a national vision on coastal and marine resources; even "invisibility" of their management within the government.*
Note: Traits of which insufficient evidence to be considered common in the region are marked with an asterisk (*) [Annexes 3 to 7].	
Sources: ICT, 2007; CIZEE-CR, 2008; Morales and Silva, 2009; Vargas, 2009.	

The recent identified issues in the selected Latin American countries (Table 12) again seem to divide them into two groups: the wealthier, more educated and less inequitable –for the region standards– Uruguay and Argentina, and the less privileged than Panama and Nicaragua (Fig. 2; Tables 2 and 8). While the first two are dealing with sectorialism and overlap of governmental agencies' responsibilities, the last two lack of "coherent" or "on-purpose" strategies and policies for coastal management and of scientific research programs and trained human resources.

Table 12: Recent identified coastal zone issues in selected countries	
Argentina (2009)	**Uruguay (2009)**
- Coastal management defined by sectorial bylaws, and at various government levels - Overlap of governmental agencies' responsibilities at the same and different levels	- Coastal management defined by sectorial bylaws without an integrative vision for conflict resolution. - Overlap of governmental agencies' responsibilities at the same and different levels - Lack of Territorial Ordinance
Nicaragua	**Panama (2008 - 09)**
- Lack of a coherent strategy for coastal management - General lack of awareness at high political levels - Inadequate legislation, and lack of a procedure for elaborating bylaws and standards - Serious institutional gaps and overlaps - Lack of human capacity to conduct monitoring, research & integrated management - "Most Nicaraguan environmental management instruments are normative instruments"	- Lack of an on-purpose ICM public policy - Highly centralized coastal decision-making - Lack of a scientific, inter-disciplinary research program focused on ICM - Little-structured, not-related participation mechanisms; little participation culture - Insufficient and inefficient environmental management instruments - Uncoordinated government efforts - Weak government project selection criteria that neglect socio-environmental factors and that are rarely linked to market projects
Sources: Annexes 3, 5, 6, and 7. Ryan and Zapata, 2003; Sbert, 2004; Garcés, 2008a; 2008b; Metzner, 2008; ANAM-PNUMA, 2009; Arenas and Garcés, 2009; Dadon, 2009.	

All the above considered, it can be concluded that an ample maturity spectrum regarding ICM approaches can be found in Latin America, from efforts considered as regional referents of good management practices, to places in which there are increasing international concerns, to regions with inexistent, inaccurate or outdated information, or where there is no specific focus at a national policy-making level on coastal issues (Table 13). Although successfully addressing a particular issue –i.e. conservation– by a coastal management effort certainly facilitates starting and strengthening other projects and approaches, it does not necessarily imply similar success rates in dealing with other matters nor that the approach is an integrated coastal management one; that depends on the evolution path of the ICM national approach.

Table 13: Coastal environmental state and ICM perception in selected countries			
Country	**Country's marine fauna self-evaluation**	**Coastal environment state**	**ICM Perception**
Argentina	Marine fauna degradation	Deteriorating	Regional referent on conservation and natural resources management
Panama	Reduction of the number of species	Endangered	Increasing international concerns due to mangrove cutting
Nicaragua	Possible extinction of species [+]	Severely degraded	Inexistent. Nicaragua does not focus explicitly on coastal or marine issues [++]
Mexico	24 threatened species. Endemism estimation (1994) [+++]	71% Deteriorating 10% Degraded 19% Severely degraded	Various conditions depending on the place and issue

[+] The Nicaraguan Ministry of the Environment and Natural Resources (MARENA) states that the information regarding this issue does not exist.
[++] The information regarding coastal issues was compiled from the "Water resources" and "Fisheries" Nicaraguan environmental chapters
[+++] The Mexican Secretary of the Environment and Natural Resources (SEMARNAT-PNUMA, 2004) recognizes a lack of *'detailed'* data, but provides regional endemism estimations (1994): 20% in the Gulf of California; 15% in the Mexican Caribbean, and the Gulfs of Mexico and Tehuantepec

Sources: MARENA - PNUMA, 2004; SEMARNAT-PNUMA, 2004; PNUMA-ORPALC and SADyDS, 2004; ANAM - PNUMA, 2009; MARENA website.

4.2.2. The S.A.L.M. ICM evolution path classification (*A proposal*)

The hereafter proposed *S.A.L.M. ICM evolution path classification* is a categorization of ICM efforts based on observations derived from the preparation process of this thesis. A series of four ICM evolution paths were *i*) recognized from the analysis of the national and regional ICM approaches –integrated by several projects and/or their phases, and the relationships among them– in the selected Latin American countries, and *ii*) named after how their evolution path looks on paper. The *S.A.L.M.* acronym stands for the first letter of each recognized development pattern:

- *Scattered* (❖);
- *Angle* (∠);
- *Lattice* (#); and,
- *Mixed* (*M*) ICM evolution paths.

This section explains the characteristics of each recognized ICM evolution path, and provides an example of them.

4.2.2.1. The *Scattered* (❖) evolution path

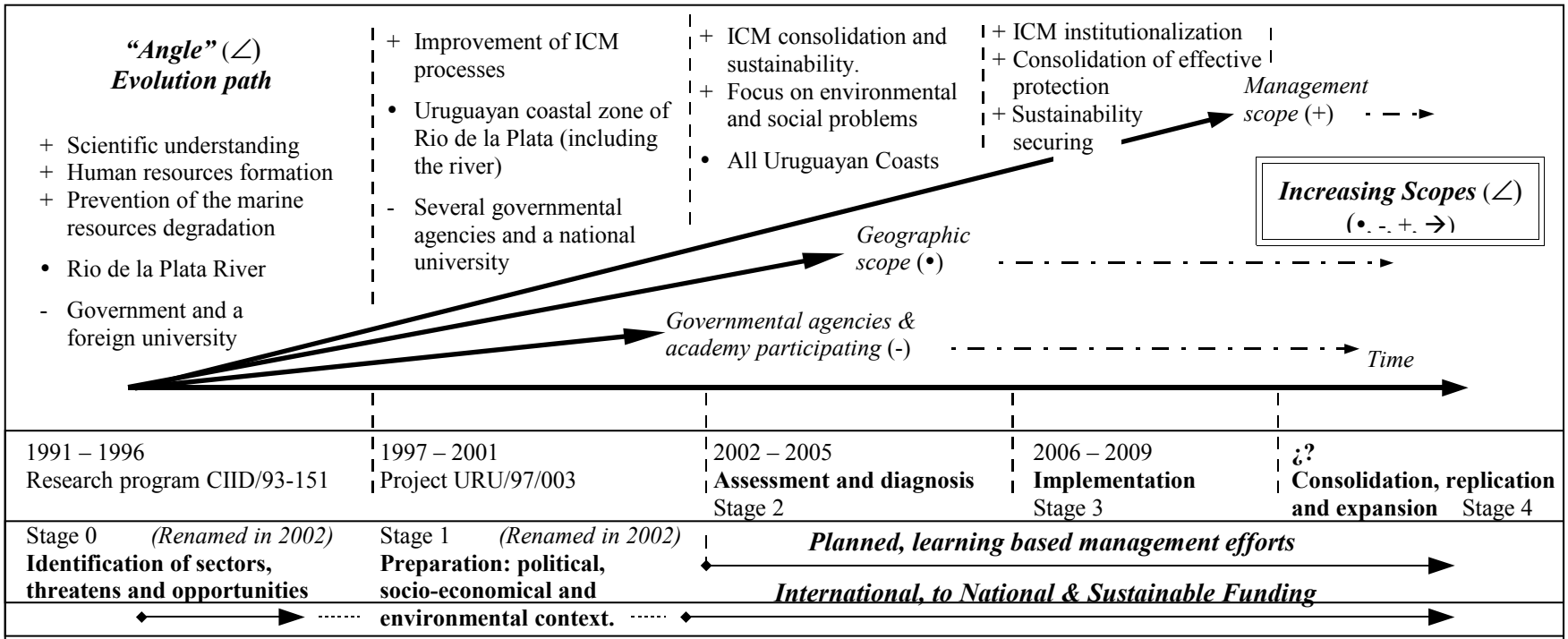
Nicaraguan and Panamanian National ICM efforts (Annexes 5 and 6)

This ICM evolution path lacks of a coherent coastal management strategy, and is the result of several unrelated efforts. There is neither a guiding idea, nor a structured evolution. The projects emerged from top officials 'wishes', available funding or natural disaster alleviation. Apart from political projects, only the most urgent (not necessarily the most important) issues are addressed. When depicted on paper, this evolution path does not resemble any figure, but looks like a scattered statistical graph (❖).

4.2.2.2. The *Angle* (∠) evolution path

Uruguayan National ICM project (Fig. 8; Annex 7)

This ICM evolution path started as a program at a local level and grew in a planned, structured, sustained, integrating manner over time, broadened in time and in geographical and management scopes to regional, and later on to national levels. There is feedback and knowledge transfer between management generations; moreover, the outcomes of the previous stages turn into the foundations of the next ones. When depicted on paper, this evolution path resembles an angle (∠) [Fig. 8].



Legend:

+ Major coastal issues addressed and focus
- Participating stakeholders: government, markets, civil society, academy
• Scale and geographic scope of the ICM effort
→ *Evolution over time and management cycles*

Figure 8. EcoPlata Program, Uruguayan National ICM project: objectives and outcomes. An "*Angle*" evolution path.
Source: Own elaboration, data Annex 8.

4.2.2.3. The *Lattice* (#) evolution path

Patagonian ICM efforts in Argentina (Fig. 9; Annex 3)

This ICM evolution path has a main guiding idea from which secondary main ideas derive, from which third order ideas may arise, and so on, always related to the main guiding idea. This path started at a local level and grew by following and diversifying the main idea and then interlacing projects, and in geographical and management scopes to regional, and later on to national levels. There is sometimes feedback and knowledge transfer between projects, which may also be stopped for a certain time and later on restart. The main idea may have been the one in which international funding was available or adapting the current needs to fit the criteria of international funding organisms. When depicted on paper, this evolution path resembles a lattice (#) [Fig. 9].

4.2.2.4. The *Mixed* (*M*) evolution path

Costa Rican National ICM efforts (Annex 4)

This development path consists mainly of a series of efforts that tend to be unrelated among them –a *Scattered* evolution path–, *but* with some of those *scattered* initiatives, usually the most socio-economically relevant ones –i.e. tourism–, evolving in *Angle* or *Lattice* paths. For instance, the Costa Rican government recognizes:

- a "lack of goals and a national vision for the management of the marine and coastal resources, [and, consequently,] (…) of actions related to a general plan;" and,

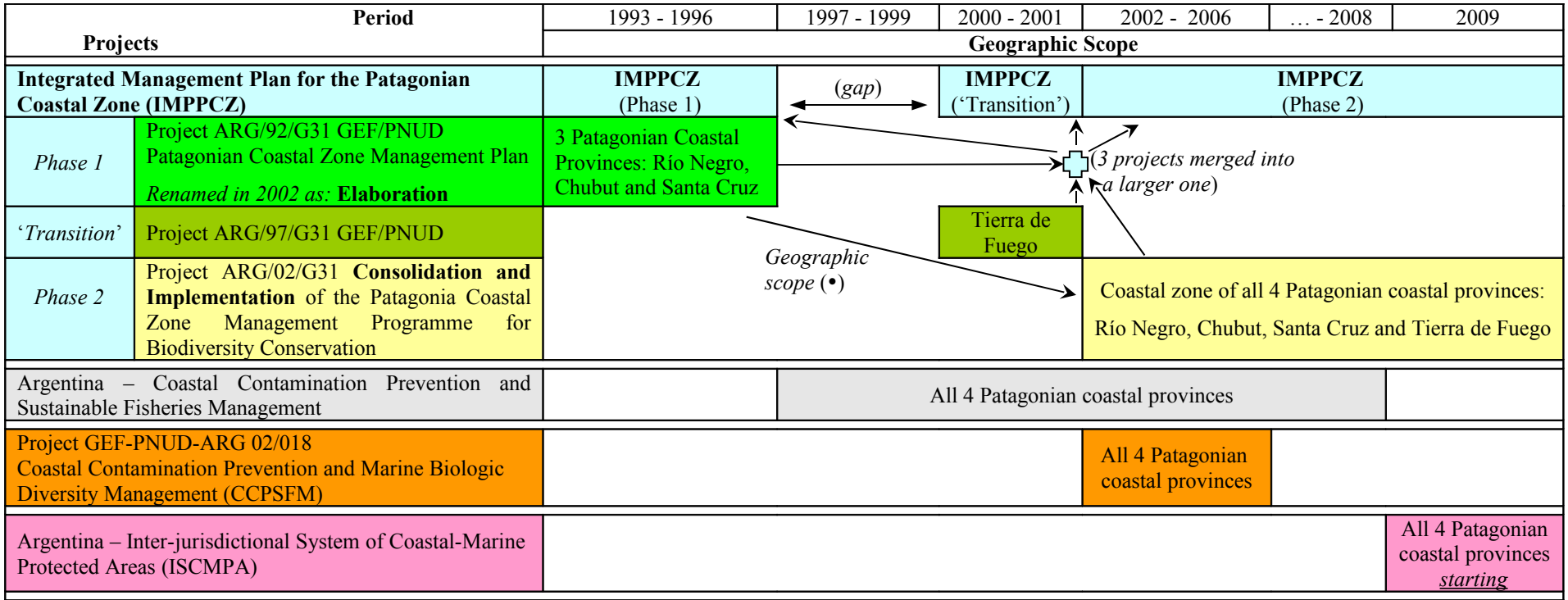
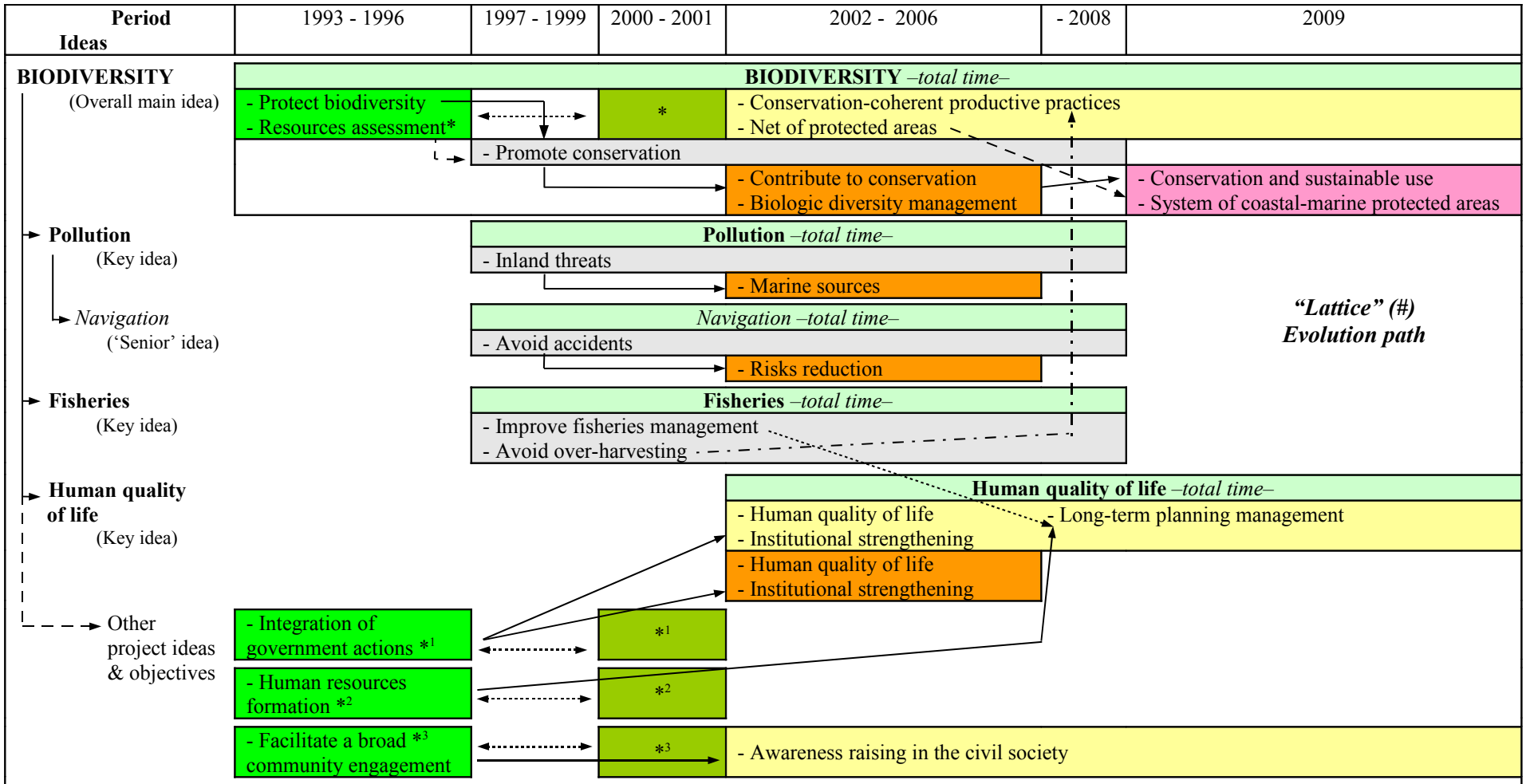


Figure 9 (part 1 of 2). Patagonian ICM efforts in Argentina: Major coastal issues addressed and project development paths. A "*Lattice*" evolution. *Source*: Own elaboration, data Annex 3.



Notes: The colors in the boxes refer to those of the projects in the previous part of this figure.
The ideas in the boxes marked with asterisk (*) are the same.

Figure 9 (part 2 of 2). Patagonian ICM efforts in Argentina: Major coastal issues addressed and project development paths. A "*Lattice*" evolution. *Source*: Own elaboration, data Annex 3.

- having "poorly articulated planning between the initiatives and agendas of [the multiple] government institutions addressing subjects linked to the marine resources such as fisheries, tourism and conservation" (CIZEE-CR, 2008).

If, on the one hand, such reality renders impossible the *Angle* and *Lattice* ICM evolution paths; on the other hand, several ICM approaches tend to be closely related to tourism[13] in Costa Rica, which outstanding biodiversity makes it a key destination for ecotourism (Mack *et al.*, 1991; MINAE-PNUMA, 2002; CIZEE-CR, 2008). Thus, the Costa Rican ICM evolution path is a *Mixed* (*M*) one with tourism as a very important component –evolving in a *Lattice* path– along with several other *Scattered* efforts such as fisheries, aquaculture and pollution.

4.2.3. Recent Latin American environmental policy formulation

4.2.3.1. Goals definition of coastal normativity and management projects

In the early 90s, the first generation of environmental normativity was created in most Latin American countries to cope the negative effects of their industries. This *reactive* legal approach was/is being replaced by a second generation of *preventive* regulations tending to avoid such harmful effects by addressing their causes and eluding the environmental degradation (SEMARNAT-PNUMA, 2004). According to the same report, a third generation of legal, administrative and economic normativity, pioneered in Latin America by Costa Rica and Mexico, attempts to address in a preventive way

[13] In 1991 ecotourism was already a relevant economic activity in Costa Rica. The tourism Blue Flag program, which requires compliance with clean beach standards, was adopted in 1996. By 2003 the Tourism Institute of Costa Rica was in charge of the Marine-Terrestrial Zone (ZMT). Traditionally tourism in Costa Rica has been linked to biodiversity and, therefore, to conservation too.

not the environmental problems, but the situations with environmental damaging potential leading to them.

There are coincidences throughout Latin America not only in the most addressed coastal priority topics and anthropogenic pressures, and in the arguments for implementing ICM (Table 10), but also in the traditionally focus on poverty alleviation and stated goals. While in 1992, the Latin American representatives at the First Earth Summit were mostly concerned about the close relationship between the region's poverty and environmental circumstances (UNEP-ROLAC, 2002); in preparation for the 2002 Johannesburg Summit, the main idea in 2001 was raising an equitable, inclusive and sustainable new globalization for achieving a greater coherence and coordination between environmental, social and economic strategies and policies (ECLAC-UNEP, 2001). Along with ideas such as sustainability and participation of the civil society, strong social elements tending to reduce poverty and foster (equitable) economic development are still present in most coastal normativity and management efforts, as the following approaches show:

- **Mexico:** PRODER Programs for a regional sustainable development tend to a sustained economic development avoiding further deterioration of the natural resources, focusing on priority –political term for most lacking, poor or underdeveloped– areas, looking for consensus, and taking into account social, economic and political stakeholders (SEMARNAT-PNUMA, 2004).
- **Panama:** Since 2004, the *National Maritime Strategy of Panama* tends to further the development of the marine sector by fostering maritime commercial activities, promoting the sustainable socioeconomic growth of the country, and favoring free trade in a competitive market (ANAM - PNUMA, 2009).

- **Nicaragua:** The *National Plan of Human Sustainable Development* focus on poverty and hunger alleviation through a fair and equitable economic development; a social development that guarantees the population's dignity; and, a sustainable development that protects and restores the environment. The National Water, and Fisheries and Water Resources Policies also seek sustainability and participation of the civil society (MARENA webpage).
- **Costa Rica:** The mission of the *National Strategy for the Integrated Coastal Management of the Marine and Coastal Resources of Costa Rica* is to "promote the sustainability of the (…) coastal and marine resources in environmental and social terms, favoring the socio-economical development through an integrated coastal management approach leaded by the government and with the participation of the civil society" (CIZEE-CR, 2008).
- **Latin American multinational ICM effort** (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama)**:** "The [*Atlantic Mesoamerican Biological Corridor project*] MCB will provide opportunities for people to participate and promote investment in the conservation and sustainable use of natural resources. The [Its] purpose is to improve the quality of life of the Mesoamericans, (…) [and] presents a number of challenges, including poverty alleviation, the protection of natural resources (especially water quality), and the incorporation of civil society sectors" (López and Jiménez, 2007).

Moreover, the *National Strategy for the Integrated Coastal Management of the Marine and Coastal Resources of Costa Rica* (Fig. 10) looks like a summary of the guiding ideas of almost every Latin American ICM recent approach.

"**National Strategy** (2008) **for the Integrated Coastal Management of the Marine and Coastal Resources of Costa Rica**"

(*Estrategia Nacional para la Gestión Integrada de los Recursos Marinos-Costeros de Costa Rica*)

Mission (*Long term*):

"Promote the sustainability of the Costa Rican coastal and marine resources in environmental and social terms, favoring the socio-economical development through an integrated coastal management leaded by the government and the civil society's participation."

Principles:

- Ecosystem approach and management
- Sustainable development
- Social interest
- Preventive and precautionary principles*
- Welfare and social solidarity
- Conservation and productivity
- Equity
- Gender equity
- Participation of the civil society
- Adaptation
- Respect for culture

Policies (*Middle term*):

- Institutional strengthening
- Civil society incorporation and participation
- Scientific and technology research
- Quality of life of coastal communities improvement
- National and international technical and financial cooperation
- Assessment and mitigation of climate change impacts
- Territorial ordinance system

Objectives (*Short term*):

- Include coastal and marine issues in the government agenda
- Improve the enforcement of the law, surveillance & security in the coastal and marine zone*
- Establish the basis for a suitable territorial ordinance for sustainable management of space, resources, uses at sea and the coastal-marine zone

Note: Traits of which insufficient evidence to be considered common in the region are marked with an asterisk (*) [Annexes 3 to 7].

Figure 10. National Strategy for the Integrated Coastal Management of the Marine and Coastal Resources of Costa Rica: Mission, principles, policies and objectives.

(Own elaboration with information from: CIZEE-CR, 2008)

4.2.3.2. Environmental scenarios and political options

In addition to similar ICM guiding ideas relying on economic, social and environmental sustainable development, Latin American strategies, normativity and management plans –not only the environment-related, but most of them– tend to share other features such as:

- "not [to] allocate the institutional responsibilities clearly,
- "[to be] very complex policies with objectives that are too broad and ambitious,
- "not [to] state how it should be implemented, and
- "[to] lack of links with other [relevant efforts and issues],"

as Nicaraguan officials state about their Territorial Ordinance which missing links are to the Forrest, Fisheries and Water Ordinances (MARENA - PNUMA, 2004).

One last common feature about environmental policy in Latin America is the existing political options to the current environmental scenarios (Table 14), portrayed by the Panamanian authorities (ANAM - PNUMA, 2009) in their *GEO Panamá 2009*.

Table 14: Panamanian environmental scenarios and political options

Scenario	Policy focus	Outcome assumptions
1. Growth First	Foster and facilitate economic growth at any price	- High economic growth - Stabilized poverty and inequality levels
2. Inequity First	Attend an increasing amount of poor persons and indigents due to lack of job opportunities	- Moderated economic growth - Increased poverty and inequality levels
3. Security First	Security and illegal drug traffic combat are the government's priority	- Limited economic growth - Significantly increased poverty and inequality levels
4. Sustainable Development First	Sustainable human development through a green economy based on socio-environmental criteria.	- Moderated economic growth - Significantly decreased poverty and inequality levels

Source: ANAM-PNUMA, 2009.

4.2.3.3. Bi- and Multinational Approaches to ICM

The success of bi- and multinational ICM approaches in Latin America tends to be much more related to the key factors of individual ICM management projects rather than to the ICM capacity, maturity and success of the implementing countries. Shortly after the ratification of the treaty that created them, the government-shaped ICM approaches involving more than one Latin American country tend to have a management plan which objectives and outcomes most usually are the ones achieved by the Argentinean-Uruguayan FrePlata Program (Table 15). Whereas the NGOs-driven ICM projects tend to evolve slowly over the years, even decades, from a local project until they achieve international recognition, and later on are endorsed by the governments of the countries where such initiative is already running. For instance, staring in the 1970s as the Trifinio Plan, the Atlantic Mesoamerican Biological Corridor project (MCB) [Annex 6] was officially defined and endorsed in 2000 by 8 countries[14], turning into an umbrella project for several individual, local biological corridors including efforts such as the Atlantic Coastal Marine Biological Corridor (Guatemala – Honduras) and the Gulf of Fonseca Project (Honduras – El Salvador – Nicaragua). Nowadays, "the MBC concept is an integral part of the vocabulary of sustainable development in Panama" (The World Bank, 2005). Moreover, "the MBC is the most important example of regional integration with an institutional framework to make decisions about resource conservation and use" (ANAM, 2008).

Table 15: The FrePlata Program: Objectives and outcomes

Objectives	Outcomes
- Coordinated research and efforts - Conservation and rational exploitation of the living resources - Protection of the shared coastal and marine environment	- Creation of a joint (Technical) Commission - Bi-/Multilateral (governmental) cooperation - Analysis of trans-border issues - Technical reports

Source: Own elaboration, data Annex 3.

[14] Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama.

V. CASE STUDIES

This chapter is the second of two that develop the answers to the four questions posed in Chapter III. It analyzes the approaches to ICM in Uruguay and Patagonia, representatives of:

- ICM efforts at national and regional levels;
- the two most structured ICM evolution paths –the *Angle* (∠) and *Lattice* (#)–;
- projects developed through foreign national –Canadian– and international –GEF - UNDP– assistance programs; and
- a project including the Governance Baselines methodology.

The official name of implemented projects, or parts of them, that are too close to GESAMP-proposed terms –i.e *Etapa* ~ "Stage" in the Uruguayan EcoPlata Program– are kept in the original language, Spanish, in order to foster clearness regarding the vocabulary used to address ICM and governance issues. In fact, implementing a clear, consistent, broadly-accepted ICM and governance terminologies is a matter of the major importance to be fostered for preventing the ambiguity and confusion that such still non-standardized language tends to cause.

Additionally, in order to avoid unnecessary text repetitions while providing a clear analysis of the projects, the Order of stated goals within quotations is indicated between keys "{Order}."

5.1. Uruguayan National ICM approach: The EcoPlata Program

The Setting

About 69% of Uruguay's total population (2008) inhabits the coastal zone, including six[15] out of 19 Uruguayan Departments, where 75% of the GDP is generated (Fig. 11). Divided in three major basins – Río de la Plata (12 400 sq km), Santa Lucia River (13,250 sq km) and Atlantic Ocean (8 600 sq km)–, the 714 km long Uruguayan coast supports the main Uruguayan socioeconomic activities such as fisheries, tourism, industry, urbanization and navigation. These activities compete for space and resources, thus, generating conflicts, degrading the coastal resources, and threatening their sustainability.

Figure 11. Uruguay: Political Map. (Adapted from AIO-Turismo).

The Issues

During the first half of the 2000's decade, the addressed issues in the Uruguayan coastal zone included critically polluted areas –Montevideo and the Andreoni Channel–, 90% of fully exploited or over exploited fisheries, and population shifts among other concerns summarized in Table 16. By 2009 such issues were also linked to the participation and performance of two of three sources of governance in the ICM

[15] Colonia, San Jose, Montevideo, Canelones, Maldonado and Rocha.

processes, that is, to governmental practices and to poor civil society involvement (CYTED, 2009; Gómez, 2009a). Thus, as the UNDP's assessment of the Uruguayan environment (PNUMA, 2008) states, the threats currently faced in the Uruguayan coastal zone are due to political, legal, environmental, cultural, urban, productive, and management causes, as well as to poor public participation processes.

Table 16: Recent addressed and identified coastal zone issues in Uruguay

2002 – 2005		2009
Addressed Issues		**Identified Issues**
- Coastal Erosion - Sand Mining - Pollution - Navigation - Over-fishing - Urbanization - Ecosystem Decline	- Population Shifts - Toxic Algal Blooms - El Niño - Exotic Species - Global Change - Biodiversity loss	- Coastal management defined by sectorial* bylaws without integrative vision for conflict resolution. - Overlap of governmental agencies' responsibilities at the same and different levels - Capacity assessment, development & evaluation - Poor civil society involvement - Lack of territorial ordinance
* Fishing, tourism, ports, transport, protected areas, territorial ordinance, environmental impact assessment, climate change adaptation		
Sources: Gobierno de Uruguay-UNDP, 2006; EcoPlata, 2007; PNUMA, 2008; CYTED, 2009; Gómez, 2009a.		

The ICM approach

This Case Study examines two programs. The first one is the Uruguayan national ICM approach *and* a sequence of projects funded by Canada (1997 – present) known as EcoPlatas Program, while the second one began in 2008 as the Coastal Biodiversity Program (CBP) administered by the [national] University of the Republic.

The national approach to ICM, as defined by the Ministry of Housing, Land Use Management and the Environment (MVOTMA) and the *EcoPlata Program,* is:

"A long-term initiative (1997 – present) aiming to strengthen the institutions, the academy, managers and the civil society {1st Order} in

issues related to Integrated Coastal Zone Management, encouraging the sustainable development of coastal and marine areas {4th Order} for improving the quality of life of the population {3rd Order}, [and] the harmonious development of productive activities with the conservation of the ecosystems and coastal resources {3rd Order}" (MVOTMA webpage - own translation).

And, the working guideline of such national approach to ICM, as defined by the Government of Uruguay and the United Nations Development Programme, is:

"The joint participation of the various institutions with mandates in coastal issues, along with representatives of various interest groups in the community {1st Order} contributes to the adoption of effective coastal management measures that are widely accepted and supported by the user community {1st Order} of the coastal area " (Gobierno de Uruguay – UNDP, 2006 - own translation).

Hence, in terms of the Orders of outcomes, the definition and the working guideline of the Uruguayan national approach to ICM are a mix of 1st and 4th Order attributes, and imprecise 3rd Order goals that lacks of 2nd Order objectives.

The *EcoPlata Program* is overseen by a Board of Directors and implemented by Thematic Technical Groups. The Board of Directors is composed of four national Ministries represented by several of their agencies, the government of the six Uruguayan Coastal Departments, the University of the Republic (UdelaR) [Table 17] and three international organizations that have supported the program over the years: the International Development Research Centre (IDRC) Canada, the United Nations Development Program (UNDP), and the United Nations Organization for Education,

Science and Culture (UNESCO). The Thematic Technical Groups include representatives of the governmental institutions with mandate on the specific issue to be addressed, and "organize and supervise work teams according to [it]" (EcoPlata, 2006).

Table 17: EcoPlata's Board of Directors

National Ministries, Department Governments, and National Academy	Representatives of the National Ministries and Academy
- Ministry of Housing, Land Use Management and the Environment	- National Directorate of Land Use Management - National Directorate of Environment - National Directorate of Sanitation and Water
- Ministry of Livestock, Agriculture and Fisheries	- National Directorate of Aquatic Resources
- Ministry of National Defence	- Oceanography, Hydrography and Meteorology Services of the Navy - National Naval Prefecture
- Ministry of Education and Culture	- National Directorate of Research and Technology
- Governments of the six coastal Uruguayan Departments	- Colonia - San José - Montevideo - Canelones - Maldonado - Rocha
- University of the Republic	- School of Sciences - School of Social Sciences - School of Engineering - School of Architecture

Source: Gobierno de Uruguay-UNDP, 2006.

Evolution of the ICM approach

The *EcoPlata Program* started as a project at a local level and grew in a structured, sustained, integrating manner over time, broadened in time and in geographical and management scopes to regional, and later on to national levels (Table 18). The Uruguayan National ICM approach began as a scientific program: *Research Program CIID/93-151 –Etapa* 0–. This program (1991 – 1996) was designed to increase the understanding of the environmental factors and human activities affecting the spawning of the *Micropogonias furnieri* croaker, a species of high economical importance, and to prevent the degradation of associated marine habitats. As a scientific project it did not include management activities.

With continued Canadian cooperation[16], the first Uruguayan coastal management effort –*EcoPlata Etapa* 1– started in Colonia Department. As Table 18 shows, there was transfer of scientific knowledge, geographic broadening to a regional scope, and a greater involvement of the national sources of governance from Research Program CIID/93-151 to Project URU/97/003 "Support for the integrated management of the Uruguayan coastal zone of Rio de la Plata," renamed in 2002 as "*Etapa* 1: Preparation: political, socio-economical and environmental context."

The second step –not management generation– of the EcoPlata Program initiated in 2002 with the creation of the *Etapa 2: "Assessment and diagnosis*". Although the geographic scope of this ICM effort broadened to a national level, it remained a foreign assistance program with some governmental commitment. If on the one hand several governmental agencies sit on EcoPlata's Board of Directors (Table 17), and Decrees 186/001 and 310/001 created in 2001 the Coordinating Commission to Support Integrated Coastal Management (CCA-GIC), appointing EcoPlata as the coordinator of its technical secretariat. On the other hand, such Coordinating Commission is intended as a consultative body –without management authority– to propose courses of action to the EcoPlata's Board of Directors (EcoPlata, 2006); moreover, it was still not integrated by the end of 2005 (DSSMCZ, 2005). Additionally, there record shows no evidence of governmental funding allocation to the EcoPlata Program –Formal funding and adoption, Step 3, Table 19–.

[16] Universities of Dalhousie and Acadia, Bedford Institute and the [Canadian] Ministry of the Environment.

Table 18: Evolution of the Uruguayan approach to ICM

Official Name	Period	Addressed coastal issues		Focus of the Program	Learning between phases	Sources of Governance	Geographic Scope
		Priority issues	Secondary issues				
EcoPlata Program Program CIID/93-151 *Etapa* 0	1991 – 1996	- Knowledge generation - Prevent coastal habitats degradation	- Human resources strengthening	Environmental	*– Start –*	- Various (unspecified) government agencies - Academy (Canadian)	Rio de la Plata River
Project URU/97/003 *Etapa* 1	1997 – 2001	- Improve ICM processes	- Support research, policy and planning formulation - Micro-projects generation - Rise of public awareness	Environmental	Expertise transfer from *Etapa* 0	- 4 [National] Ministries[+] - University of the Republic (UdelaR)	Rio de la Plata and its coastal zone (Colonia Department)
Etapa 2 *Assessment and diagnosis*	2002 – 2005	- Coastal sustainable development - Human quality of life	- Basis for research, policy & planning formulation - Pilot areas - Achieve social compromise - Enduring funding schemes	(Societal &) Environmental	Expertise transfer from *Etapa* 1	- 4 Ministries[+] - 6 Department governments - UdelaR	All Uruguayan Coasts [Six Departments]
Etapa 3 *Implementation*	2006 – 2009	- Institutionalize ICM - Conservation and Sustainable Productive Development	- Governance / Participation - Coastal Zone Vulnerability - Coastal Infrastructure - Coastal Environmental Information System	Societal, environmental & governance	Expertise transfer from *Etapa* 2	- 4 Ministries[+] - 6 Department governments - UdelaR	All Uruguayan Coasts
Etapa 4 *	?						
EcoPlata & UdelaR's **Coastal Biodiversity Program**	2008 – present	- Biological diversity conservation	- Marine Protected Areas, & - their integration to ICM	Environmental	*– Start –* *(No) Feedback from Etapa 3?*	- Various (unspecified) government agencies - UdelaR	All Uruguayan Coasts

[+] Ministries of Housing, Territorial Ordinance and Environment; of Stockbreeding, Agriculture and Fishing; of Defense; and of Education and Culture (Table 17).
* *Etapa 4 - Consolidation, replication and expansion* has already been announced. Although no information was available on it, a reduction of its scopes is not foreseen.

Source: Own elaboration, data Annex 7.

As "improving human quality of life" was a priority issue of this step, it could be understand that the focus of the program broadened from *Etapa* 1 to *Etapa* 2 to address socioeconomic issues. However, the efforts of the program continued to be focused on (further) developing its institutional capacity –i.e. creating the basis for research, policy and planning formulation; and, achieving social compromise–.

Finally, each new phase –*Etapas* 3 and 4– of the EcoPlata Program are efforts to replicate successes within the same geographic area and addressing the same issues –Implementation, Step 4, Table 19–. Therefore, as Table 18 suggests, it is not clear whether any *Etapa* of the EcoPlata Program advanced beyond Step 2, "Program Preparation," of the Management Cycle.

Table 19: Management Cycle of the Uruguayan Approach to ICM

Program	**The Management Cycle Steps**				
	Issue(s) Identification	Program Preparation	Formal funding and adoption	Implementation	Evaluation
	– Step 1 –	*– Step 2 –*	*– Step 3 –*	*– Step 4 –*	*– Step 5 –*
EcoPlata Program	■	■	**?**		
Costal Biodiversity P.	■	*			

Legend: **Started** **Completed** **Omitted**

* No available information

Source: Own elaboration, data Annex 7.

The Outcomes of the ICM initiatives

If on the one hand the management generations of the EcoPlata Program are characterized by feedback and knowledge transfer between them from *Etapa* 1 (Table 18) on and addressing all four 1st order outcomes (Annex 7) –unambiguous goals, constituencies, formal commitment, and institutional capacity–. Yet, the results of the program tend to be vaguely stated and to skip important elements of the step-by-step process described by the management cycle. For instance,

"*Conservation* {3rd Order} *and Sustainable Productive Development* {3rd Order}. Promote participatory development of production strategies that benefit the local community with the least environmental impact or degradation of coastal resources:

"1.4.1. Developing workshops to elaborate strategies {1st Order} to use the coastal productive potential orderly and sustainably;

"1.4.2. Identifying knowledge generation requirements {1st Order} for supporting the generation of strategies for the conservation of coastal ecosystems and natural resources; and

"1.4.3. Developing conservation strategies and local development {1st Order[17]} on the basis of existing potential and the priorities established by consensus" (EcoPlata, 2006 - own translation).

While conservation and sustainable productive development are 3rd order desired outcomes; developing workshops, elaborating strategies, needs identification and prioritizing, and knowledge generation are all 1st order outcomes.

Although public awareness raising has been a major component of each coastal initiative from *Etapa* 1 on, and the view and contributions of the civil society and markets have been incorporated into the communication system since *Etapa* 3 –but have apparently not influenced the decision-making process–; the EcoPlata Program is mainly focused upon the government, neglecting the markets and civil society, whose participation is fundamental to achieve outcomes of superior order. This likely influences the absence of 2nd and 3rd order outcomes. For instance, although the

[17] 2nd Order only if there was evidence of implementation as Behavior Change.

Governance section of the *EcoPlata Rendering of Accounts 2009* (EcoPlata, 2010) states that:

> "governance is 'responsibility of all actors' […] [and] is guaranteed through a higher participation of civil society in a horizontal relationship between governmental institutions and organizations such as unions, neighborhood groups, civil associations, nongovernmental organizations, social movements, associations of professionals, private companies, etc.,"

the performed activities for achieving governance goals were:

- "identifying priority areas {1st Order} for the generation of knowledge;
- "promoting research activities {1st Order};
- "identifying the principal environmental problems and the conflicts arising from use {1st Order}; and,
- "supporting governmental, academic and civil society actors in the generation and use of knowledge as an instrument in making decisions {1st Order}."

Consequently, as knowledge and the *sole* identification of problems and conflicts will not promote any conduct or use changes –2nd Order outcomes–, the main outcomes were either courses and conferences, or institutional capacity building activities –1st Order outcomes– such as:

- "a National System of environmental indicators with emphasis on the follow-up of the territorial socio-environmental situation on the coastal strip;
- "a Geographic Information System on tourism and transport in the coastal departments; and,

- "a Database for the systematization of information related to the biodiversity of invasive species" (EcoPlata, 2010).

Therefore, "social compromise was achieved (only) at a local level in several territories" (EcoPlata webpage).

Even if four national Ministries and the government of six Departments sit on EcoPlata's Board of Directors (Table 17), the formal governmental commitment to this program seems questionable. Usually provided by a Presidential decree and/or law enabling ICM management mechanisms and allotting the necessary authority to implement them, a "networked" formal governmental commitment can be achieved only if various ministries formally commit to instruments such as Memoranda of Agreement obliging them to act in a collaborative and coordinated manner (Olsen, 2003). In EcoPlata's case such evidence of formalized commitment to an integrating approach has not been negotiated and formalized. Although Decrees 186/001 and 310/001 (2001) seem to provide it, they do not enable ICM management mechanisms nor allot the necessary authority given that the Coordinating Commission to Support Integrated Coastal Management is intended as a consultative body to the EcoPlata's Board of Directors. Until now the Uruguayan authorities have only agreed to participate and "coordinate" with the Canadian assistance program –Formal funding and adoption, Step 3, Table 19–. However, the Uruguayan participants in the EcoPlata Program have worked to secure long-term funding mechanisms, an expression of commitment that is occasionally seen as a result of foreign assistance projects.

Regarding institutional capacity, the Uruguayan national ICM approach has been successful in developing human resources to generate scientific data and implement plans of action since the very beginning, as well as in generating micro-projects and

pilot areas from *Etapas* 1 and 2 –Implementation, Step 4, Table 19–. There are pilot areas in all six Uruguayan coastal Departments with outcomes that include "sand-capturing fences, signaling, environmental education, and facilitating the participative processes" as well as re-launching a resort in Kiyú, San José, and supporting the consolidation of the Parque Lineal Punta Yeguas Management Plan in Montevideo (EcoPlata, poster).

In light of the above, the EcoPlata Program record does not provide evidence of changes in conduct and use (2nd Order Outcomes), except for an *ongoing* culture change on which there was no available information on tangible outcomes, nor environmental and socioeconomic benefits (3rd Order Outcomes) despite *i*) an evolution path considered an example of (technical) development that render them into reality, and *ii*) a stated interest in improving the human quality of life. These gaps in the record may be due to the following:

- 2nd and 3rd Order outcomes have not been defined, monitored or quantified;
- the markets and civil society have been excluded from the decision-making process, and the program focus mainly on government agency behavior;
- goals cannot be achieved when the efforts are not specific at achieving them; that is, due to no articulation of concrete, tangible 2nd and 3rd objectives on how to improve the satisfaction, perceptions and socio-economic reality of human coastal communities given the premise that "*better environmental conditions (automatically) imply a better human quality of life.*"

Finally, the way in which the Coastal Biodiversity Program (CBP) started in 2008 questions the extent to which integration has been achieved by the EcoPlata Program. The CBP program –the second examined project in this Case Study– started

by the time when EcoPlata Program *Etapa* 3 was running with a focus on environmental, social and governance dimensions. It was launched by EcoPlata and the University of the Republic –both had been involved in every ICM effort since *Etapa* 0–. However, the focus of the CBP Program is only environmental, indicative of a lack of feedback from *Etapa* 3. Additionally, since its objective is to "reinforce the conservation and use of the coastal and marine biodiversity in the agriculture, tourism and transport sectors" –Issue Identification, Step 1, Table 19– (Gómez, 2009b), it has mainly focused on Marine Protected Areas: achieving the creation of 2 in 2008, and proposing 9 more in 2009 and their integration to ICM.

5.2. Patagonian ICM approaches in Argentina: Regional Efforts and Governance Baselines

The Setting

The 4,867 km long Patagonian coastlines in Argentina[18] are one of the world's most productive and best preserved coastal and marine ecosystems (González and Esteves, 2008). Extending between 41°S and 55°S and comprising 70% of all Argentinean coastlines[19], the 4 Patagonian Provinces –Río Negro, Chubut, Santa Cruz and Tierra de Fuego– (Fig. 12) are a growing, developing region due to its highly productive coastal ecosystem (Gil *et al*., 1999; Muñoz *et al.*, 2003; Musmeci and Caille, 2010).

Figure 12. Patagonian Coasts, Argentina. (Adapted from AIO-Turismo).

Traditionally supported by sheep farming, the Patagonian population –1.2 million inhabitants in 2009– has become increasingly dependent on the oil, fisheries and tourism in its coastlines during the last century: oil extraction started in San Jorge Gulf in 1900 and in 1950 the development of the fisheries industry, the first coastal natural

[18] The length of the Argentinean coastlines is still debated: 4,725 km according to the [Argentinean] Military Geographic Institute; 5,087 km according to the [Argentinean] Navy Hydrographic Service; and 6,816 km according to the Argentinean Institute of Oceanography. This case study uses the information submitted by the Government of Argentina to support its Project GEF-PNUD ARG/02/G31 proposal.

[19] Buenos Aires Province is the only non-Patagonian coastal Province in Argentina.

protected areas were created in 1970, and coastal eco-tourism (*Turismo de Naturaleza*) began in 1980 (Musmeci and Caille, 2010).

The Issues

During the last decade the issues addressed in the Patagonian coastal zone seem to have been derived from a key principle: *biodiversity as source of wealth*. Regardless of the environmental and socioeconomic differences among the four Patagonian costal provinces, they all had/have common coastal threatens (Muñoz *et al.*, 2003). According to Nakashima (1997), the protection of biodiversity through a Patagonian Coastal Zone Management Plan was the response in 1992 to officials unable to tackle coastal threats such as chronic oil spills, high levels of incidental by-catch, and loss of habitats due to irresponsible tourism and shoreline development. Some of the main addressed issues (Table 20) have been a constant priority since the beginning of the ICM efforts i.e. pollution and fisheries, whereas others evolved from achieved goals. For instance, while in 1999 the main challenge of the government was to enforce environmental laws, by 2009 sectorialism and overlap of governmental responsibilities are/should be its main focus.

Table 20: Recent addressed and identified coastal issues in Patagonia

1999 – 2008		2009
Addressed Issues		**Identified Issues**
- Pollution	- Habitat deterioration	- Sectorialism
- Navigation	- Oil spills	- Overlap of governmental responsibilities
- Fisheries overexploitation	- Aquaculture	
- Urbanization	- Toxic Algal Blooms	- Induced erosion
- Tourism	- Exotic Species	
- Poor law enforcement	- Coastal vulnerability	

Sources: Gil *et al*., 1999; Muñoz *et al.*, 2003; PNUMA-ORPALC and SADyDS, 2004; Dadon, 2008; González and Esteves, 2008; Dadon, 2009.

The ICM approach

In addition to the 3 projects assimilated into the Integrated Management Plan for the Patagonian Coastal Zone (IMPPCZ) [1993 – 1996, 2000 – present], this Case Study examines 3 other Argentinean coastal efforts and a Governance Baseline in Patagonia for all of them contributed to forge Patagonia's reputation as a "regional referent on conservation issues and natural resources management" (GEF, online). As distinguishing between "(a regional) Patagonian approach to ICM" and an "(Argentinean) approach to ICM in Patagonia" is useless for the purposes of this thesis, all the addressed coastal efforts are considered Patagonian given that they 'took place' there.

The long-term objective of the Patagonian approach to ICM –the Integrated Management Plan for the Patagonian Coastal Zone (IMPPCZ)– as defined by the United Nations Development Programme and the Global Environment Facility (GEF) is:

> "To conserve globally important marine and coastal biodiversity in the Argentinean Patagonia coastal ecosystem {3rd Order} by integrating conservation and biodiversity friendly production practices {2nd Order} into regional coastal planning and management" (UNDP-GEF, 2003).

Such objective, as further detailed by the implementing NGO –*Fundación Patagonia Natural*–, is:

> "To conserve the ecosystem's coastal and marine biodiversity in Patagonia {3rd Order}, integrating productive practices that do not threaten and preserve such biodiversity {2nd Order} through regional coastal management and planning. The purpose is to ensure that stakeholders at

national, provincial and local levels can effectively manage and plan the use of resources in the context of integrated coastal management {1st Order}" (*Fundación Patagonia Natural* webpage – own translation) .

Hence, the *Integrated Management Plan for the Patagonian Coastal Zone* (IMPPCZ) links biodiversity conservation with socioeconomic activities, and its overall objective includes the desired environmental and socioeconomic benefits –3rd Order outcomes–, the pursued conduct and use changes –2nd Order–, and the institutional outcomes –1st Order– in which they are to be anchored.

As there was no federal agency with overall responsibility for coordinating coastal biodiversity protection activities in Argentina, the Patagonian regional approach to ICM was –and still is– implemented by *Fundación Patagonia Natural* (FPN) with technical assistance from the Wildlife Conservation Society. According to Nakashima (1997), *Fundación Patagonia Natural* was the first Non-Governmental Organization contracted for executing a GEF project, thus serving as the institutional focal point for conservation of coastal biodiversity and becoming an important player in a national concern.

Evolution of the ICM approach

The regional approach to ICM in Patagonia seems to have developed through a series of interlacing projects from and around a key idea: *biodiversity* (Fig. 9). Such approach started simultaneously in Río Negro, Chubut and Santa Cruz Provinces as Project ARG/92/G31 "*Patagonian Coastal Zone Management Plan*" –Phase 1– in 1993 (Fig. 9, Table 21). Driven by the Argentinean commitment to Agenda 21, funded by the GEF and implemented by FPN, Phase 1 (1993 – 1996) included representatives of the government, the civil society and the academy. This program was designed to assess

–environmentally and socio-economically– the Patagonian coastal natural resources and to create institutional capacity for protecting the region's biodiversity.

Two issues determined the next step of the Patagonian ICM approach: *i*) the First National Census on Coastal Pollution, released in 1995; and *ii*) the national fisheries collapse, and consequent social crisis, in 1996. Founded on scientific data generated in Phase 1 –the Census on Coastal Pollution–, the Argentinean adaptive, learning-based response to such drivers in 1997 was the Coastal Contamination Prevention and Sustainable Fisheries Management (CCPSFM) project (Table 21). In other words, IMPPCZ's Phase 1 evolved into the CCPSFM project, not into its 'Transition' or Phase 2, thus, creating a gap in its execution (Fig. 9).

Musmeci and Caille (2010) consider Project ARG/97/G31 (2000 – 2001) the second Patagonian ICM management generation developing in a "Transition' or "Pilot Phase experience" between IMPPCZ's Phases 1 and 2. However, it seems that by means of Project ARG/97/G31 the same activities already performed in Río Negro, Chubut and Santa Cruz were conducted in Tierra de Fuego while being stopped in the previously mentioned provinces. This suggests a reduction or shift of the project's geographic scope rather than the "expansion to Tierra de Fuego" that Musmeci and Caille (2010) claim; expansion that the GEF Project website reports in Phase 2.

The second Patagonian management generation corresponds to the Coastal Contamination Prevention and Sustainable Fisheries Management (CCPSFM) [1997 – 2008] project. Although the focus of this project remained environmental –as that of the IMPPCZ project preceding it–, the CCPSFM project broadened *i*) its scope from biodiversity protection to promotion of biodiversity conservation and started addressing pollution, navigation and fisheries issues, and *ii*) its geographical reach for it was a national program running in all Argentinean coasts (Fig. 9, Table 21).

In 2002, two coastal management efforts were launched in Patagonia: *i*) Project GEF-PNUD-ARG 02/018; and, *ii*) Project ARG/02/G31 "*Phase 2*" of IMPPCZ –the regional ICM approach–. Based in adaptive, learning-based decisions, both programs broadened the previous ICM scope and the issues addressed; both were applied in all Patagonian coasts, and benefited from expertise transfer from Phase 1 and the CCPSFM project (Table 21). Project GEF-PNUD-ARG 02/018 *"Coastal Contamination Prevention and Marine Biologic Diversity Management"* broadened its focus from 'promotion of' to 'contribution to biodiversity conservation;' and added marine pollution sources to the already addressed inland ones, as well as reduction of navigation risks to the previous accidents avoidance (Fig. 9, Table 21). The focus of Project ARG/02/G31 "*Consolidation and Implementation of the Patagonia Coastal Zone Management Programme for Biodiversity Conservation*" expanded from 'promote biodiversity conservation' to 'conservation-coherent productive practices;' and included the implementation of the regional ICM approach to ICM, and a net of protected areas.

Although both projects included "improving human quality of life" and "institutional strengthening" as priority issues, Project GEF-PNUD-ARG 02/018 focused mainly in strengthening institutional capacity –i.e. bathymetry surveys, electronic navigation charts, and coastal sensibility maps–; whereas Phase 2 addressed all four institutional outcomes, and achieved conduct and use changes thus favoring the improvement of human quality of life of coastal communities.

Table 21: Evolution of the approaches to ICM in Patagonia

Official Name	Period	Addressed coastal issues		Focus of the Program	Learning between phases	Sources of Governance	Geographic Scope
		Priority issues	Secondary issues				
Integrated Management Plan for the Patagonian Coastal Zone (IMPPCZ)							
Project ARG/92/G31 *Phase 1*	1993 – 1996	- Protect biodiversity - Assess the natural resources - Provide ICM tools	- Integrate relevant information - Strengthen institutional and human resources - Broad society engagement	Environmental	*– Start –*	- Government of 3 Provinces - FPN: *Fundación Patagonia Natural*	Río Negro, Chubut & Santa Cruz Provinces
Project ARG/97/G31	01–02	Same as *Phase 1*			*Transition / Gap*	- FPN; Government of Tierra de Fuego	Tierra de Fuego
Project ARG/02/G31 *Phase 2*	2002 – 2009	- Conservation-coherent productive practices - Human quality of life	- Institutional strengthening - Long-term planning management - Awareness raising - Net of protected areas	Societal & environmental	- Expertise transfer from *Phase 1* and CCPSFM project - Adaptive, learning-based	- Government - Civil society - Markets *	All Patagonian coastal Provinces
Coastal Contamination Prevention and Sustainable Fisheries Management (CCPSFM)	1997 – 2008	-Promote biodiversity conservation	- Pollution (Inland sources) - Navigation (Avoid accidents) - Fisheries (Over-harvesting, Improve management)	Environmental	- Expertise transfer from *Phase 1* - Adaptive, learning-based	- Government: national and all 5 Argentinean coastal Provinces - FPN	Argentinean coasts (All Patagonian coasts)
Project ARG 02/018 Coastal Contamination Prevention and Marine Biologic Diversity Management	2002 – 2006	- Contribute to biodiversity conservation - Biologic diversity management	- Pollution (Marine sources) - Navigation (Reduce risks) - Human quality of life - Institutional strengthening - Awareness raising	Societal & environmental	- Expertise transfer from *Phase 1* and CCPSFM project - Adaptive, learning-based	- Naval Prefecture - Navy Hydrographic Service - Gov. 4 Patagonian coastal Provinces	All Patagonian coastal Provinces
Inter-jurisdictional System of Coastal-Marine Protected Areas (ISCMPA)	2009 – present	- Biodiversity conservation and sustainable use	- System of coastal-marine protected areas	Societal & environmental	- Expertise transfer from all previous - Adaptive, learning-based	- Government: national and all 5 coastal Provinces - FPN, WCF	Argentinean coasts (All Patagonian coasts)
Inter-jurisdictional Coastal-marine Austral Patagonia Park	2005 – present	- Reduce anthropogenic impacts - Responsible tourism	- Pollution (Oil) - Responsible fishing - Exotic species	Societal & environmental	*– Start – Governance baseline*	- Civil society - Government - Markets *	North part of San Jorge Gulf

* Table 22 shows a complete list of the involved sources of government. *Note:* Figure 9 depicts a timeline on the Patagonian coastal management approaches.

Source: Own elaboration, data Annex 3.

As the funding and implementing bodies of the *i*) IMPPCZ [20], *ii*) CCPSFM, and *iii*) ARG/02/018 ICM efforts are the same –GEF and FPN, respectively–, the record tends to show similar progress in terms of the Management Cycle (Table 22). For accepting an application for funding a project, the GEF requires a project proposal –that should include the issue(s) to be addressed and a program draft– ratified by (all) the executive branch(es) of the region(s) where the program would run, thus, fulfilling steps 1 to 3 of the Management Cycle.

Starting in 2009, the Inter-jurisdictional System of Coastal-Marine Protected Areas (ISCMPA) project illustrates the level of integration achieved by the approaches to ICM in Patagonia. Based on outcomes of previous and ongoing ICM efforts, the ISCMPA project evolved from the two ICM efforts launched in 2002, particularly from Phase 2 that already proposed a "net of protected areas" (Fig. 9). Among the previous ICM efforts on which ISCMPA relies are *i*) the creation of the first Coastal-Marine Protected Area in 2007 –an achievement of Phase 2–, and *ii*) the creation of the Inter-jurisdictional Coastal-Marine Austral Patagonia Park in 2009 –an accomplishment of the Governance Baselines methodology–. The ISCMPA project aims at creating the framework for a sustainable System of Coastal-Marine Protected Areas; its keeps the societal and environmental focus of the previous ICM efforts, but broadens the scope from conservation-coherent productive practices –a 2nd Order goal– to conservation and sustainable use (Fig. 9, part 2 of 2; Table 21).

[20] The IMPPCZ approach comprises Projects ARG/92/G31, ARG/97/G31, and ARG/02/G31.

Table 22: Management Cycle of the Approaches to ICM in Patagonia

Program	The Management Cycle Steps				
	Issue(s) Identification	Program Preparation	Funding & adoption	Implementation	Evaluation
	– Step 1 –	*– Step 2 –*	*– Step 3 –*	*– Step 4 –*	*– Step 5 –*
IMPPCZ (3 merged projects)	■	■	■	▒	
CCPSFM	■	■	■	▒	
Project ARG 02/018	■	■	■	▒	
ISCMPA	■	*	▒		
Governance Baseline	■	■	■	■	▒

Legend: ▒ **Started** ■ **Completed** □ **Omitted**

* No available information

IMPPCZ: Integrated Management Plan for the Patagonian Coastal Zone, comprising Projects ARG/92/G31, ARG/97/G31, and ARG/02/G31; ***CCPSFM***: Coastal Contamination Prevention and Sustainable Fisheries Management; ***ISCMPA***: Inter-jurisdictional System of Marine Protected Areas; ***Governance Baseline***: Inter-jurisdictional Coastal-Marine Austral Patagonia Park.

Source: Own elaboration, data Annex 3.

The creation of the Inter-jurisdictional Coastal-Marine Austral Patagonia Park in the north part of San Jorge Gulf, Patagonia, Argentina, is an IMPPCZ's Phase 2 outcome in which the Governance Baselines methodology was used. Created through coordinated efforts between the government national, provincial and local levels with the society civil, the park also achieved the support of the markets sector. As Table 22 suggests, the governance baseline project is the one that has advanced the most on the Management Cycle. However, it could be argued that its geographic scope is smaller than the one of the other examined projects.

As a final point, the ICM focus and issues addressed in Patagonia have clearly shifted over time, mostly in response to the policy cycle (Fig. 9 and Table 21).

The Outcomes of the ICM initiatives

If on the one hand the record shows the Patagonian approach to ICM has evolved through a series of interlacing projects that may have been partially or completely stopped –i.e. non-continued efforts on preparing human resources (1997-99),

and the implementation gap of the IMPPCZ project, respectively– (Fig. 9, Table 21). On the other hand, *i*) the ICM approach seems to have been based on a key principle –*biodiversity as source of wealth*–; *ii*) there has been a continuous feedback among such projects and/or their phases (Table 21); and, the results of the addressed programs tend to be expressed in non-quantitative terms, but including all relevant elements of the step-by-step process described by the management cycle. For instance, the initial development objective of the regional approach to ICM –IMPPCZ Project– according to the 1993 Project Document *Patagonian Coastal Zone Management Plan* was:

> "To provide the coastal zone of Patagonia with tools {1st Order} for implementing sustainable use {3rd Order} of its natural resources and for protecting its biological diversity {3rd Order}. Reaching this objective has been planned in light of the needs and interests of the local communities {2nd Order}" (UNDP-GEF, 1993).

Therefore, the definition of goals includes the desired environmental and socioeconomic benefits –3rd Order outcomes–, the pursued conduct and use changes –2nd Order–, and the institutional outcomes –1st Order– in which they are to be anchored.

Since its beginning, the IMPPCZ Project committed to raise awareness and to facilitate a broad engagement of the community. Objectives that have been successfully achieved as the amount and range of involved stakeholders from all three sources of governance suggest (Table 23); hence, providing strong constituencies for the IMPPCZ efforts, including the local Inter-jurisdictional Coastal-Marine Austral Patagonia Park project based on the Governance Baselines methodology.

Table 23: Sources of Governance in the Integrated Management Plan for the Patagonian Coastal Zone (IMPPCZ)

Government	Civil Society	Markets
International Organizations - GEF-UNDP National government - Ministry of International Relations and Foreign Trade - Ministry of Environment and Sustainable Development - Ministry of Tourism - National Parks Administration - Under Secretariat for Fisheries - Federal Fisheries Council - Federal Environment Council Regional and local governments - Governments of the four Patagonian Provinces - Patagonian Parliament - Ministries of the Environment - Ministries of Tourism - Ministries of Education, Culture - Ministries of Fisheries and Aquaculture - Fueguino Institute of Tourism - Governments of the 18 coastal Municipalities in Patagonia	National and International NGOs - Wildlife Conservation Society - Fundación Vida Silvestre - Arg. - Aves Argentinas - BirdLife - Avina - Ecocostas - Red Latinoamericana MCI - Foro de ONGs del Atlántico Local and regional NGOs - Fundación Tierra Salvaje - Ecocentro - Inalafquen Foundation - UNPA Foundation - Several more Universities, Research Institutions - National Universities of La Plata, Comahue, Patagonia, Austral Patagonia - National Patagonian Centre - Austral Scientific Research Centre - National Institutes of Fisheries Research and Development; and of Farming Stockbreeding - Marine Biology and Fisheries Institute A. Storni	Oil businesses - Sipetrol - Chevron - Exxon - Repsol-YPF - Argetinean Petroleum Association - Empresas Alpat SA, Aluar SA, Cerro Vanguardia SA Fishing businesses & associations - - Association of Conservation Agents of Patagonia - Artisanal Fishing and Aquaculture associations - Argentinean Union of Artisanal Fishermen - Association of Fishing Captains of San Jorge Gulf - Alpesca SA, Harengus SA - CAPIP, CaLaPa and CAPA chambers - Certificadora OIA Argentina - Marine Stewardship Council Tourism business & associations - Mundo Marino - Associations of tourism guides

Source: Caille and Musmeci, 2008.

As defined by GESAMP, the Patagonian *Formal commitment* to its ICM approach may be questioned. Such definition includes *i*) governmental endorsement enabling ICM management mechanisms and allotting the necessary authority to implement them (Olsen, 2003), and *ii*) the allocation of governmental funding to implement it. The governmental endorsement has been outstanding, as the participating governmental institutions in the IMPPCZ project (Table 23) show. Still, the record suggests that the Patagonian ICM efforts tend to rely heavily on international –GEF's– funding. Moreover, sound proofs on initiatives searching for sustainable funding

schemes tend to lack. In fact, the continuity of the highly successful IMPPCZ project[21] is at risk if GEF's funding is not renewed for a new phase from 2010 on.

The institutional capacity developed by the IMPPCZ project includes generation of scientific and technical data, surveys and assessments, workshops and training programs, two National Census –1995, and 2007– on Coastal Pollution, and the creation of *i*) two Natural Marine Parks in 2007 and 2009, *ii*) an interpretation center at Punta Tombo Reserve, *iii*) the Reference Center of Integrated Coastal Management, and *iv*) low-impact, high-revenue pilot projects on fisheries and tourism (Annex 3), on which no additional information was available.

Based on adaptive, learning-based decisions and on accomplished institutional –1st Order– goals, the IMPPCZ project also achieved conduct and use changes, and environmental benefits –2nd and 3rd Order outcomes–. Such changes included an increased feeling of belonging of the civil society, boat operators self-limiting the amount of whale watching tours, 'on-board observers' monitoring by-catches, the introduction of a vessels' waste collection service in Port Madryn, and the requirement of Environmental Impact Assessments for approving new developments (Annex 3). Reduced fishing and oil threatens, and minimizing the impact of tourism on coastal habitats were the attained environmental benefits.

Mostly shaped by government institutions, Projects GEF-PNUD-ARG 02/018 and CCPSFM tend to focus since the definition of their goals on creating institutional capacity rather than in addressing all four 1st order outcomes (Annex 3).

The Inter-jurisdictional Coastal-Marine Austral Patagonia Park [Governance Baseline] project tends to define both societal and environmental outcomes in quantified terms –stating how much, and by when are to be accomplished–, and to link the

[21] Patagonia is considered a "regional referent on conservation issues and natural resources management" (GEF, online).

expected environmental and socioeconomic benefits – 3rd Order– with the conduct and use changes –2nd Order– that can foster them. For instance,

> "2. Eradicate irresponsible fishing practices {2nd Order}: reduce the fishing impacts in {3rd Order} the marine zone of the new Inter-jurisdictional Park [located] in the north zone of San Jorge Gulf.
>
> "Goal 2.1: Reduce the bird's mortality rate {2nd Order} due to fishing arts to less than 20% of its current level in the Park's marine zone by 2010" (Musmeci and Caille, 2010 – own translation).

Further dividing the conduct and use changes into institutional outcomes –1st Order– such as the "Creation of local contingence plans; of normativity on bird-sparing fishing devices; and, of the 'Permanent Marine Fauna Rescue and Rehabilitation Center'" (Musmeci and Caille, 2010 – own translation).

This precise definition of goals and the search of sustainable funding schemes are the main differences between the Inter-jurisdictional Coastal-Marine Austral Patagonia Park [Governance Baseline] project and Phase 2 of the Integrated Management Plan for the Patagonian Coastal Zone (IMPPCZ), of which the first one is part. More precise goals and sustainable funding along with strong constituencies, formal commitment and institutional capacity render it easier for the Governance Baseline to implement strategies and achieve the (step-by-step) constructed objectives.

VI. CONCLUSIONS

On the overall evolution of approaches to ICM in Latin America

Most Latin American countries started their approaches to ICM about two decades ago, mainly for economic reasons; since then hundreds of ICM efforts have been launched, but there are only a few documented successful cases. As land resources become exhausted or less valuable in the 90s, Latin American nations started integrating coastal zones into their development plans –i.e. the fisheries and aquaculture booms–, resulting in exacerbated anthropogenic pressures and environmental impacts. Furthermore, coastal communities *i*) are among the poorest and less educated ones in a region of *developing* countries characterized by division, poverty, and an impressive inequality, and, thus, *ii*) tend to rely directly on coastal resources to survive. Such reality, along with weak institutions, poor government accountability, lack of faith in the rule of law and/or cynicism toward government agencies, on the one hand, render more important implementing ICM projects, and, yet, hamper their institutionalization.

Varying conditions of Latin American coasts are related to *i*) the use –or misuse– given to them, and *ii*) to the (relative) wealth and equity in each country, in each zone within a country, and so on. Having all Latin American countries faced the same pressures and addressed similar issues for matching reasons –all derived from the unanimously-recognized economic importance of their coasts–, the condition of their coastal zone ranges from "regional referent on conservation" in Patagonia, to "increasing international concerns" in Panama (Tables 9, 10, 11 and 12). While (relatively) wealthier, more educated, less inequitable nations such as Uruguay and Argentina deal with second generation coastal issues –i.e. eutrophication and

sectorialism–, less privileged nations such as Panama and Nicaragua are trying to draft "coherent," "on-purpose" strategies and policies for coastal management, to deal with habitat loss and to train human resources. Such disparities occur not only between countries, but between zones within a country e.g. the Mexican coastal issues include eutrophication near to tourism developments, *and* habitat loss in zones devoted to shrimp catching efforts, thus requiring context-based solutions. More sophisticated issues being addressed by wealthier societies or communities is a consequence of the human survival nature, in other words, given that societies and communities are integrated by humans –whose needs can be related to Maslow's Hierarchy of Needs (Fig. 13)–, only when the overall 'physiological' –*survival*– needs of a community are satisfied the 'safety' –*comfort*– ones are addressed, then the 'belonging' ones, and so on.

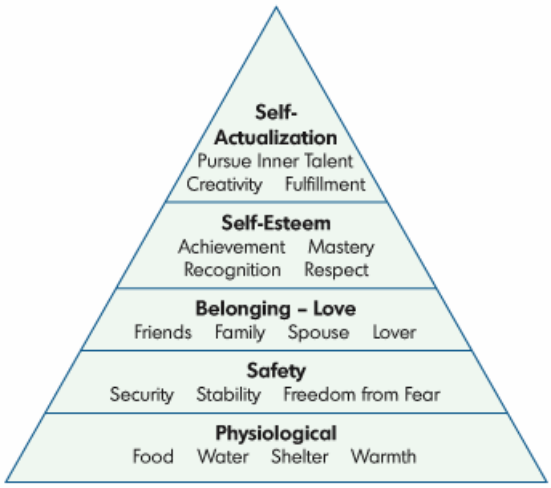


Figure 13. Maslow's Hierarchy of Needs. (Adapted from Maslow 1970)

The group of coastal context-based solutions applied in a given place, region or country constitutes its ICM evolution path. Being an objective of this thesis to identify such evolution paths in Latin America, and as no ICM classification framework has been developed to the best understanding of its author, this thesis proposes the *SALM ICM evolution path classification* based on observations derived from its preparation process. The acronym of this categorization stands for the first letter of each recognized development pattern –*Scattered* (❖), *Angle* (∠), *Lattice* (#) and *Mixed* (*M*)–. Explained and exemplified in Chapter IV, the synthesis of each evolution path is: *Scattered* (❖) = unrelated ICM efforts; *Angle* (∠) = planned, structured, broadening ICM efforts;

Lattice (#) = ICM efforts following a main guiding idea; and, *Mixed* (*M*) = *Scattered* efforts with one or more initiatives evolving in *Angle* or *Lattice* paths.

The current focus of most Latin American ICM efforts includes new and old objectives. Contrarily to the Latin American environmental normativity, which focus evolved from *reactive* to *preventive*[22], and into a now forging third normativity generation; Latin American ICM projects tend to maintain the traditionally focus on poverty alleviation, along with goals regionally introduced a decade ago –i.e. "human quality of life" in 2002 by EcoPlata *Etapa* 2, Project ARG 02/018, and IMPPCZ Phase 2– and the omnipresent idea of sustainability. Such a mix usually merges into a main objective almost identical to the one of CIZEE-CR (2008): "Promote the sustainability of the Costa Rican coastal and marine resources in environmental and social terms, favoring the socio-economical development through an integrated coastal management leaded by the government and the civil society's participation."

The future of the Latin American coastlines, moreover, the future of the *whole region* –this is not a partisan statement, but a management one[23]–, depends on the ability of Latin America to balance (through ICM) fair, competing activities in a finite space and to face the current threats. Threats that are due to political, legal, cultural, social, economic, and management causes; in other words, threats that we, humans, cause. Lately, Latin America has put itself in a situation in which it must choose one out of four guiding ideas to direct its efforts towards the future: *i*) Favor Growth, *ii*) Tackle Inequity, *iii*) Foster Security, and *iv*) Sustainable Development.

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[22] The *Reactive* normativity addressed the environmental negative effects. The *Preventive* one addresses the causes of such negative effects. The third normativity generation aims to prevent the situations that could lead to the causes of the negative effects.

[23] About 60% of all Latin Americans live in coastal zones since 1997; coastal zones tend to accountable for generating important GDP shares; and, the region is increasingly dependant on coastal resources.

On the evolution of specific ICM projects in Latin America

Recurrent in Latin American ICM projects, their definition of goals and working guidelines tend to be a mix of *i*) institutional desired outcomes –1st Order attributes–, *ii*) the supreme will to achieve sustainability –4th Order attributes–, and *iii*) imprecise environmental and socioeconomic benefits –3rd Order goals– lacking of the essential changes in the behavior of institutions, individuals, groups, and businesses –2nd Order objectives–, which are the ultimate cause of the threatens and issues that render necessary the implementation of ICM processes. A cause for this to happen is the (false) premise that "*better environmental conditions (*automatically*) imply a better human quality of life.*" False because the goals tend not to be achieved when the efforts are not specifically aimed at achieving them; that is, due to no articulation of concrete, tangible 2nd and 3rd objectives on how to improve the satisfaction, perceptions and socio-economic reality of human coastal communities. The step-by-step definition of goals of the Patagonian IMPPCZ project is "the exception that confirms the rule" (*La excepción que confirma la regla*, Mexican saying).

The objectives of almost every Latin American ICM effort include awareness raising, participatory processes and/or broad involvement of the civil society. However, also almost every ICM effort will be government-shaped excluding the markets and civil society from the decision-making process, thus, the programs tend to focus mainly on government agency behavior, achieving institutional capacity outcomes instead of constituencies. This reality can be appreciated in most of the examined projects in this thesis.

Implying governmental recognition and funding, two of the less addressed and most difficult issues to achieve, formal commitment to ICM is one of the major issues

to be addressed in almost every ICM effort in Latin America. It seems that every national and regional Latin American ICM effort is/ has been funded and supported by foreign institutions. The government agencies tend:

- not to fully commit through a decree or law, but (only) accept to "collaborate" or "coordinate efforts" –here the political wording used is extremely important– i.e. the EcoPlata program, that nonetheless envisages sustainable funding schemes;
- to completely rely on international funding i.e. the IMPPCZ project that achieved commitment at every governmental level, but that without GEF could be stopped from 2010 on;
- not to clearly allocate institutional responsibilities (Nicaragua); or
- to give no signs of commitment.

Resulting in efforts that *i*) do not clearly allocate institutional responsibilities; *ii*) do not state how they should be implemented; *iii*) are very complex with too broad and ambitious objectives; and/or *iv*) lack of links with other relevant efforts.

Institutional capacity tend to be the most developed GESAMP-defined Institutional or 1st Order outcomes in Latin America. Almost every Latin American ICM effort has prepared human resources, generated scientific and technical reports, and created infrastructure. Nevertheless, pilot programs and areas tend to be scarce or not or representative of the overall projects –i.e. sand-capturing fences and signaling in the Uruguayan EcoPlata program–.

Latin American ICM efforts tend "get the job done," in other words, tend work the management plan, with their own cultural traits, but almost always following a simple rule: "the job should be done with [the cooperation of] the boss, without [it] him,

or despite him." However, working a plan, does not necessarily implies achieving the outcomes, but performing the planned activities.

If on the one hand scientific knowledge is the basis for the decision-making process; on the other hand, most successful community-based ICM initiatives tend to largely rely on "traditional knowledge" developed through generations of trial-and-error tests, as science tends to be done! Thus, traditional knowledge, that is, experience should be put into context and improved (if possible), but by no means despised! Besides: "if it works, why fix it?" (Management Thumb Rule). Shifting paradigms is one of the hardest issues to achieve, and sometimes implementing ICM processes require such changes.

Governance Baselines in the context of Latin American approaches to ICM

Governance Baselines are a methodology that has been successfully implemented in urbanized coasts, in rural, multiple estuaries, and in protected areas. It may be integrated into the development plan of a region –i.e. San Jorge Gulf in Patagonia–, overcome *impasse* situations where other initiatives had failed –i.e. Cayo Miskitos in Nicargua–, or start the ICM in a region –i.e. the Gulf of California in Mexico–.

As the Inter-jurisdictional Coastal-marine Austral Patagonia Park project show, the Governance Baselines methodology defines both societal and environmental outcomes in quantified terms –stating how much, and by when are to be accomplished–, and link the expected environmental and socioeconomic benefits – 3rd Order outcomes– with the conduct and use changes –2nd Order– that can foster them, and further divdes these late ones into the institutional outcomes –1st Order– to be attained in order to anchor the implementation of the project.

The Governance Baselines methodology from its very roots bases the project goals –hence, the project itself– in the specific context of the place linking the needs and perceptions of coastal communities with the environmental conditions. In fact, the Governance Baselines require and facilitate a broad involvement of all three sources of governance –government, civil society, and markets–, thus achieving the critical constituencies on which most successful ICM efforts tend are grounded, as the Austral Patagonia Park project and the Cayo Miskitos, Nicaragua, (Annex 5) show. In this late case, the Governance Baselines methodology were able to overcome the barriers with which the civil society –defending the way in which they earning their life– had blocked several other national and foreign ICM efforts.

Both major expressions of formal commitment, governmental enactment and developing sustainable funding mechanisms, tend to be achieved more efficiently by the Governance Baselines methodology in regard with other projects funded either by national foreign and international development assistance programs i.e. Canadian support for the EcoPlata Program in Uruguay and GEF-PNUD support to the Patagonian IMPPCZ, respectively.

As developing institutional capacity is the main focus of most ICM efforts, the Governance Baselines do not neglect it either. On the contrary, such development is performed by following the step-by-step path stated in the goals definition phase.

Moreover, with fewer available resources, the Governance Baselines tend to achieve similar use and conduct changes, and environmental and socioeconomic benefits –2nd and 3rd Order outcomes–, as projects supported by foreign assistance programs, or even excel them.

Additionally, in terms of plan development the Governance Baselines methodology:

- "assesses degree to which enabling conditions are present;
- "provides a reference point against which to gauge future change;
- "serves as basis for "tailoring" good practices to the place; and,
- "provides context and history in a specific area" (Kannen, 2009)

consequently, simplifying the implementation of the Management Cycle in the project using it and providing context-based, tailor-cut solutions.

The "recipe for success"

The success of ICM management efforts tends to be determined by the extent to which the ICM efforts are able to integrate *all* four GESAMP-defined institutional or 1st Order outcomes: unambiguous goals, constituencies, formal commitment, and institutional capacity. When properly planned and implemented, such institutional outcomes tend to encourage the conduct and use changes in the behavior of institutions, individuals, groups, businesses and investments –2nd Order outcomes–, which *are i*) the *often-neglected* essence and drivers of environmental and socioeconomic benefits –3rd Order outcomes–, *and*, even more, *iii*) the cause of the threatens to the coastal zone.

The "cherry" to such recipe would be implementing and sponsoring –not necessarily financially (the academy here can play a decisive role)– the documentation process of successful ICM approaches at every level, but particularly at local level where the very limited project's resources tend to result from the tenacity and/or inventiveness of the civil society – of which in Latin America there is never a shortness!

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ANNEXES

Annex 1: Left-wing governments in Latin America

Country	President[1]	Election / Reelection year	Mandate time (years)
Venezuela	Hugo Rafael Chávez Frías	1998[2], 2000, 2006	6 (previously 5)
Brazil	Luiz Inácio Lula da Silva	2002[2], 2006	4
Argentina	Néstor Carlos Kirchner Ostoić Cristina Elizabet Fernández de Kirchner	2003 2007	4
Uruguay	Tabaré Ramón Vázquez Rosas	2004[2]	5
Bolivia	Juan Evo Morales Ayma	2005[2] (2008 recall referendum)	5[3]
Chile	Verónica Michelle Bachelet Jeria[4]	2006	4
Nicaragua	José Daniel Ortega Saavedra	2006[2]	5
Ecuador	Rafael Vicente Correa Delgado	2006[2], 2009	4
Paraguay	Fernando Armindo Lugo Méndez	2008	5

[1] The underlined names indicate how they are usually referred to.

[2] The office was taken between January and March of the year next to the elections year.

[3] From February 07, 2009, there is a new Bolivian Constitution.

[4] In December 13, 2009 (first round) and January 17, 2010 (second round), Miguel Juan Sebastián Piñera Echenique, the center-right candidate, was elected president of Chile. He will take the office on March 11, 2010.

Sources: Despacho de la Presidencia del Gobierno Bolivariano de Venezuela, Presidência de la República Federativa do Brasil, Presidencia de la Nación Argentina, Presidencia de la República Oriental de Uruguay, Presidencia de la República de Bolivia, Art. 168 – Constitución Política de Bolivia Ley de 07 de febrero de 2009, Gobierno de Chile, Gobierno de Chile – Ministerio del Interior, Presidencia de la República de Nicaragua, Presidencia de la República del Ecuador, Presidencia de la República del Paraguay.

Notes:

- The 2006 presidential election in Mexico derived in a social crisis due to the closeness of the ballot results between the actual president, right-wing party, and the left coalition candidate with 35.89 and 35.31% of the votes, respectively, and a 0.58% difference between them (IFE, 2006).

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Annex 2: Wars and Major International Military Conflicts in Latin America and the Caribbean (1883-2009)

Conflict's name	Conflicting countries	Period	Causes
Wars*			
War of the Pacific	Chile – Bolivia, Peru	1879 - 1884	Territory, mineral resources
-	Dominican Republic – Haiti	1937	Territory, migration
Chaco War	Paraguay – Bolivia	1932 - 1935	Territory, access to the ocean through Paraguay river
-	Peru – Ecuador	1939 - 1941	Territory, borderlines
Soccer War	El Salvador – Honduras	1969	Territory, migration
Falklands Conflict	United Kingdom – Argentina	1982	Territory
Alto - Cenepa War	Peru – Ecuador	1995	Territory, borderlines
Major inter-state military conflicts			
-	Chile – Argentina	1978	Territory, borderlines
-	Peru – Ecuador	1978	Territory, borderlines
-	Peru – Ecuador	1981**	Territory, borderlines
-	Peru – Ecuador	1984	Territory, borderlines
-	Colombia –Venezuela	1987	Oil
-	Colombia – Venezuela & Ecuador	2009	Unauthorized military attack / intervention on FARC guerrilla

* War: at least 1,000 casualties in battle.

** Military force used, but not a war as previously defined.

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Annex 3: Argentina - Patagonian ICM efforts, and the Freplata Program

	Integrated Management Plan for the Patagonian Coastal Zone (IMPPCZ) *		Argentina - Coastal Contamination Prevention and Sustainable Fisheries Management (CCPSFM)	Project GEF-PNUD-ARG 02/018 'Coastal Contamination Prevention and Marine Biologic Diversity Management'	Argentina - Inter-jurisdictional System of Coastal-Marine Protected Areas (ISCMPA)
Name:	Phase 1: Project ARG/92/G31 GEF/PNUD Patagonian Coastal Zone Management Plan *Later renamed as:* **Elaboration**	Phase 2: Project ARG/02/G31 Consolidation and Implementation of the Patagonia Coastal Zone Management Programme for Biodiversity Conservation	1997 – 2008	2002 – 2006	2009 – present
Period:	1993 – 1996	2002 – 2009 – (?)	Coastal zone of the 4 Patagonian coastal provinces.	Coastal zone of the 4 Patagonian coastal provinces.	Coastal zone of the 4 Patagonian coastal provinces.
Place:	Coastal zone of the Río Negro, Chubut and Santa Cruz provinces	Coastal zone of all 4 Patagonian coastal provinces: Río Negro, Chubut, Santa Cruz and Tierra de Fuego			
Driver:	Agenda 21		- Promote the conservation of biodiversity along the Patagonia coastline and protect the Patagonia Shelf large marine ecosystem through the prevention and mitigation of coastal pollution and the sustainable management of fisheries resources: + Address the threats from land-based contamination in the Patagonia coastal area + Improve fisheries management policy to prevent over-harvesting + Avoid accidents and pollution risks resulting from increased commercial traffic	- Contribute to the conservation of the biologic diversity and to the prevention of the marine and coastal pollution for improving the quality of life of the region's inhabitants: + Prevent contamination from marine sources + Reduce navigation risks + Biologic diversity management + Institutional strengthening	- Create the framework for an effectively managed and financially sustainable Inter-jurisdictional System of Coastal-Marine Protected Areas (ISCMPA) for the conservation and sustainable use of Argentina's coastal marine biodiversity.
Main objectives:	- Protect the biologic diversity of the very productive and economically important Patagonian coastal ecosystems: + Increase the knowledge of the Patagonian Coastal Zone: evaluate the coastal natural resources, their uses and the income that generate + Train staff in management and conservation issues + Integrate effectively government actions + Facilitate a broad engagement of the community	- Improve the quality of life of human communities that depend on coastal resources while maintaining biodiversity and productivity of Patagonia's ecosystems: + Strengthen the institutional framework for long term planning and a management that secures the conservation of the biodiversity + Start sub-programs for assuming conservation-coherent productive practices + Establish a net of Patagonian Protected Areas + Develop awareness raising programs on the value of the marine and coastal biodiversity			

Name:	Integrated Management Plan for the Patagonian Coastal Zone	Coastal Contamination Prevention and Sustainable Fisheries Management	Coastal Contamination Prevention&Marine Biologic Diversity Management	Inter-jurisdictional System of Coastal-MPAs
Period:	1993 – 1996, 2000 – 2009 – (?)	1997 – 2008	2002 – 2006	2009 – present
Outcomes:	**Institutional outcomes** **1st Order** ***Constituencies*** - Awareness raising - Citizen participation processes ***Formal Commitment*** - Creation of the Punta Tombo Reserve Management Plan - Creation (2008) of the 'Marine Natural Park' juridical figure. - Publication of the Patagonian Coastal Zone Management Plan (1996?) ***Institutional Capacity*** - Generation of scientific and technical information - Maps based in a coastal zoning - Coastal Biodiversity Map - Interdisciplinary analysis of the relationship between fisheries, tourism, oil industry and coastal fauna - Recommendations and technical reports on conservation and sustainable use: Coastal Protected Areas, sustainable fishing, and responsible tourism - Workshops and training programs in (sustainable) fishing, fauna, tourism, pollution remediation and prevention, and conservation - Survey of the recreational activities (tourism, protected areas, and fishing) - Assessment of important zones for biodiversity as possible future protected areas - Increased coordination and cooperation between governmental agencies - The First (1995), and Second (2007) National Census on Coastal Pollution - Broadcasting of coastal management, use & conservation activities [publications, media and a webpage] done by NGOs and Universities (still not systematic).	**Institutional outcomes** **1st Order** ***Institutional Capacity*** - Establishment of an integrated, operational strategy for coastal pollution management - Design and installation of an electronic marine information infrastructure. - Built capacity in laboratory analysis of red tide & improvement in oceanographic information (Tierra del Fuego) - Equipment and training for measuring marine water quality (Chubut) - Surveys and equipment provision for oceanographic data in critical areas for fisheries (Rio Negro) - Development of an educational plan for the official curricula (Santa Cruz).	**Institutional outcomes** **1st Order** ***Institutional Capacity*** - Software for the prediction of oil spill's trajectories - Contingency plans - Bathymetry surveys - Electronic navigation charts - Marine - coastal sensibility maps - Marine hydrodynamic modeling - Buoys Marine Information System	*Starting*

Name:	Integrated Management Plan for the Patagonian Coastal Zone	Coastal Contamination Prevention and Sustainable Fisheries Management	Coastal Contamination Prevention&Marine Biologic Diversity Management	Inter-jurisdictional System of Coastal-MPAs
Period:	1993 – 1996, 2000 – 2009 – (?)	1997 – 2008	2002 – 2006	2009 – present
Outcomes:	- Creation of an interpretation center at Punta Tombo Reserve - Creation (2009) of the 'Parque Interjurisdiccional Marino Costero Patagonia Austral' Natural Marine Park (PIMCPA) - Creation (2009) of the Reference Center of Integrated Coastal Management – Universidad Nacional de la Patagonia San Juan Bosco - Demonstration of low-impact, high revenue pilot projects on fisheries and tourism **Conduct and use changes** **2nd Order** ***Changes in Behavior of Institutions*** - National and provincial laws now require the completion of environmental impact assessments before any new development can be approved ***Changes in Behavior of Individuals, Groups and Businesses*** - Increased feeling of belonging - Waste collection service introduced for ships in Port Madryn. Ships' refuse, bilge and ballast waste is now collected instead of being dumped or thrown overboard - Boat operators limit the number of whale watching tours to avoid disturbing whales and protect the long term prospects for tourism - 'On-board observers' started to monitor by-catches **Environmental and socioeconomic benefits** **3rd Order** - Reduced fishing and oil threatens - Minimized impact of tourism on coastal habitats			

Inter-jurisdictional Coastal-Marine Austral Patagonia Park

[Governance Baseline]

(Musmeci and Caille, 2010)

Period:	2005 – present
Place:	North part of San Jorge Gulf, Patagonia, Argentina
Driver:	A joint initiative of the civil society and the government
Main objectives:	- Creation of the Inter-jurisdictional Coastal-Marine Austral Patagonia Park - Oil pollution prevention and mitigation - Eradicate non-responsible fishing - Avoid introduction of foreign species - Promote responsible tourism
Outcomes:	**Institutional outcomes** **1st Order** ***Unambiguous Goals & Formal Commitment*** - Creation of local contingence plans and of normativity on bird-sparing fishing devices - Normativity update forbidding the intentional introduction of exotic species - Creation of the park's tourism normativity encouraging responsible tourism ***Constituencies & Formal Commitment*** - Creation (2007 - 2008) of the Inter-jurisdictional Coastal-Marine Austral Patagonia Park - Formalization and budget approval of the "crisis committee" with local, provincial and national representatives ***Institutional Capacity*** - Establishment of monitoring protocols in the Regional Program of On-board observers - Creation of the "Permanent Marine Fauna Rescue and Rehabilitation Center" - Good tourism practices are implemented in pilot areas **Conduct and use changes** **2nd Order** ***Changes in Behavior of Institutions*** - NGOs, the government and other institutions perform regular monitoring and informative campaigns focusing on the park's sustainability - The government supports research efforts, broadcasts outcomes, and rejects applications for introducing exotic species for aquaculture and sport-fishing ***Changes in Behavior of Individuals, Groups and Businesses*** - Regular use of bird-sparing fishing devices - The on-board observers generate reliable information that is analyzed in real-time - Measures for preventing and mitigating oil spills and pollution are operative since 2009 ***Changes in Investments*** - Every oil company in the zone provides funding on a regular basis for such programs **Environmental and socioeconomic benefits** **3rd Order** - Minimized fishing and oil threatens lead to fauna's mortality of less than 1% - Tourism's impact is minimal and does not threaten the coastal and marine biodiversity - No intentional introduction of exotic species has been registered

Freplata Program

(Jointly performed by **Argentina** and **Uruguay**)

Period:	1994 – present
Place:	Rio de la Plata's mouth, coastal and marine zone
Driver:	Sign of (1993) the Río de la Plata and its Marine Front Treaty
Main objectives:	- Research and coordinated measurements between Argentina and Uruguay - Conservation, preservation and rational exploitation of the living resources - Protection of the shared marine environment
Outcomes:	**Institutional outcomes** **1st Order** ***Formal Commitment*** - Creation of the Mixed Technical Commission of the Maritime Front ("Comisión Técnica Mixta del Frente Marítimo") - GEF Funding (1997) - Project Draft ***Institutional Capacity*** - Achieved bilateral cooperation - Trans-border Analysis Diagnosis (including environmental, social, economic, legal, institutional and communication issues in both countries) - 200 technical reports - Identification of stakeholders within the civil society ("actores sociales")

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Annex 4: Costa Rican ICM Efforts

1977

(Sorensen, 1990)

- Publication of the Law of the Marine and Terrestrial Zone (ZMT) enacting the Coastal Management Program

1991

(Mack et al, 1991; Coope SoliDar R.L., 2002)

- "The only park where the marine resources are effectively managed is the recently created Ballena Marine National Park"
- Conservation of coastal and marine species that depend on coastal resources has been effective in certain areas: *Fishing and coral collection*: Manuel Antonio and Cahuita National Parks and Cabo Blanco Absolute Nature Reserve; Turtle nesting: Santa Rosa and Tortuguero National Parks, and Las Baulas National Marine Park.

1993

(Barton and Vargas, 1995; Morales, 2008)

- Regional Workshop on Integrated Coastal Management with Latin American, American & European universities
- Acknowledgment of the importance to prepare human resources for ICM
- Surveys performed at regional and national levels

(Sorensen, 1993)

- Existence of ICM efforts
- Note on Sorensen's paper: "Programs or projects directed by the national government either to manage all or most of the nation's coastal zone or done as pilot programs in a relatively small percent of the nation's entire coastal zone".

1994

- Publication (Law 7384) of the Fishing and Aquaculture Institute of Costa Rica for stimulating such sector

1995

(Gobierno de Costa Rica, 1997; Lemay, 1998; Rodríguez and Windevoxhel, 1998; FAO-OAPN, 2005)

- Elaboration of the National Marine-Coastal Program for:
  + achieving a coordinated institutional actions.
  + consolidating and managing the Multiple-Use Marine Areas (Nicoya and Dulce Gulfs, North and South Atlantic Areas, and Isla del Coco)
  + starting protection efforts of the marine-coastal zone
  + establishing a Coastal Management Unit (MINAE)
- Definition of Multiple-Use Marine Area (Executive Decree N° 24282-MP-MAGMIRENEM)
- Key issues: over-fishing, illegal fishing

1996

- Adoption of the Blue Flag program (tourism and conservation focus) [*Morales, 2008*]
- First phase of the GEF-UNDP Environmental planning and management of highly contaminated bays in Puerto Limón, Costa Rica (*Andrade and Escobar, 2002*)

Sometime between 1996 and 1999

(Morales, 2008; Morales and Silva, 2009)

- Creation of the Consorcio Costa (4 Latin American, 3 European Universities and a research institute) within the European Union's ALFA Program
  + Starting the Postgraduate Course in Integrated Management of Tropical Coastal Zones at the University of Costa Rica
  + More than 100 activities performed since 1995, emphasizing research and academic mobility
  + Axes: multidisciplinary, multi-institutional and regional approach

1999

(Windevoxhel et al, 1999; Heydman and Kjerfve, 2001)

- Existence of: Constitutional and legal definition of Coastal Zone Management (CZM), Specific Law on MCZ. Sectorial plans and laws on MCZ Management, Environmental Impact Assessment of Projects, Zones of coastal retreat, Special Management Areas, and Data Bases on MCZ
- The Coastal Management Unit is sectorial, although an inter-sectorial coordination has been proposed

2003

(Morales and Silva, 2009)

- By 2003 the Tourism Institute of Costa Rica is in charge of the Marine-Terrestrial Zone (ZMT)
- Existence of 138 Coastal Regulation Plans in 23 coastal cantons

2004

(CIZEE-CR, 2008; Morales and Silva, 2009)

- Creation of the Marine Coastal Interdisciplinary Commission of the Exclusive Economic Zone (Comisión Interdisciplinaria Marino Costera de la Zona Económica Exclusiva –CIMCZEE–) integrated by representatives of the government, universities, NGO's, tourism operators and fisheries.

2005

(Morales, 2008; Morales and Silva, 2009)

- The CIMCZEE is declared (2005) a permanent commission
- Creation of the Geographic, Marine-Coastal and Limnology Information System (Sistema de Información Geográfica Marino Costera y Limnológica – SIGMAR) for spatial-referenced data storage, retrieval, analysis, manipulation and presentation

2006
(GIAL, 2006; ICT, 2007)

- Existence of more than 200 Coastal Regulation Plans

Identified issues

- Lack of cooperation and coordination between national institutions and neighboring countries
- Coastal policy focused on conservation and ecotourism
- Mono-crop tourism in several areas
- Lack of an integrated management of coastal data for the decision-making processes
- Few territorial planning
- Profits-decreasing artisanal fishing
- High poverty and lack of social support
- Illegal occupation of the coastline

2007
(Morales and Silva, 2009)

- Official presentation of the National Strategy for the Integrated Management of the Marine and Coastal Resources of Costa Rica (Estrategia Nacional para la Gestión Integrada de los Recursos Marinos-Costeros de Costa Rica)
- Risk Management - Beach Sign Program for 31 beaches (Tourism Institute of Costa Rica)

2008
(CIZEE-CR, 2008)

- The "National Strategy for the Integrated Coastal Management of the Marine and Coastal Resources of Costa Rica" is published.
- Mission, principles, policies and objectives in Figure 10.

Recognized issues by the government

- Poor environmental normativity enforcement, particularly regarding control and protection issues
- Existence of obsolete rules and legal gaps, and lack of legal integration and of appropriated normativity for maritime transport
- Lack of transparency towards the civil society
- Multiple institutions devoted to managing coastal and marine resources, poor coordination among them and overlap of responsibilities.
- Lack of goals and of a national vision on coastal and marine resources; even "invisibility" of their management within the government.
- Lack of marine territorial ordinance.
- Lack of basic infrastructure for maintenance, inspection, storage, tourism and rescue activities.
- Insufficient financial, technical and human resources
- Lack or inaccurate technical and scientific information

2009
(Morales and Silva, 2009; Vargas, 2009)

- Several NGO's have and continue to contribute substantially in the ICM efforts
- Creation (Executive Decree 35369) of the 'Marine Reserve' and 'Marine Management Area' legal figures for managing and conserving the sea and its ecosystems, as well as for [improving] the quality of life of the coastal communities

Identified issues

- Fragmented competencies and limited capacity
- Overlap of governmental agencies' responsibilities and at different government levels that generate conflicts
- The National Strategy for the Integrated Management of the Marine-Coastal Resources of Costa Rica is not yet approved by the government (Consejo de Gobierno)
- The CIMCZEE is waiting for an Executive Modification to become the Marine-Coastal National Commission (Comisión Nacional Marino Costera) whose responsibilities would be to assess, facilitate and unify every ("individual, collective, governmental, academic, scientific and non-governmental") effort for improving the ICZM

Project	Ostional Wildlife Refuge Project		Asociación de Piangueros Mixta de Purruja (APIAPU)*
Period:	~ 1985 – present		1995 – 2001
Place:	Ostional, Guanacaste, Costa Rica**		Purruja, Golfito, Costa Rica
Main objectives:	- Sustainable exploitation, management and commercialization of the Lora Turtle eggs		- Avoid the overexploitation of the *piangua* (*Molusca: Bivalvia: Arcidae*), on which the community subsists
Outcomes:	**Institutional outcomes** **1st Order** ***Constituencies & Formal Commitment*** - Creation (Law 190) of the Ostional Community Development Association in 1990 ***Institutional Capacity*** - Research, knowledge and information generation for the decision-making process **Conduct and use changes** **2nd Order** ***Changes in Behavior of Institutions*** - Matching their interests, joint collaboration of the government, the civil society, and the University of Costa Rica ***Changes in Behavior of Individuals and Groups*** - The civil society turns into the main surveillance source of the beach **Environmental and socioeconomic benefits** **3rd Order** - Sustainable management and successful exploitation model*** of the Lora Turtle eggs where civil society's members collect and pack the eggs.		**Institutional outcomes** **1st Order** ***Unambiguous Goals*** "Stop being simple *pianguas* extractors to become producers and exploit the resources in a sustainable way" ***Constituencies*** - Creation (1995) of the APIAPU Association ***Formal Commitment*** - Official constitution (1997) of the APIAPU: a community, non-lucrative association not related to any NGO - Juridical certificate (1999) issued by the government - The APIAPU is financially self-sustainable through contributions of its members (the civil society) **Conduct and use changes** **2nd Order** ***Changes in Behavior of Individuals and Groups*** - The community organized itself for managing the mangrove resources and turned into its main surveillance group **Environmental and socioeconomic benefits** **3rd Order** - The community turned from a mere extractor into a sustainable *pianguas* producer

* A parallel development occurs since 2000 with the Asociación Protectores del Manglar (ASOMANGLE), Playa Blanca, Puerto Jiménez, Costa Rica.
** Ostional Beach is one of the most important nesting sites of the Lora turtle (*Leyidochelis olivacea*) in the Pacific Ocean.
*** Severely criticized, this is an "innovative and controversial resource management" project (Mack *et al.*, 1991)

Sources: Mack *et al.*, 1991; Chaves *et al*., 2004 *In*: Morales and Silva, 2009.

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Annex 5: Nicaraguan ICM Efforts

1988

- Creation of the Nicaraguan Fisheries Corporation as a dependency of the Ministry of Commerce (MEIC) *[Foer, 1991]*
- Publication of the Decree No. 1320 'Creation of the Natural Reserves in the Pacific of Nicaragua,' including the Estero Real and Padre Ramos Estero Reserves

1991

- Nicaraguan coastal key issues:
+ Degradation of habitats important to the economy and quality of life
+ Developing and managing fisheries for sustainable production, especially the shrimp and lobster fisheries
+ Guiding the development of a sustainable mariculture industry
+ Minimizing the impact of natural disasters
+ Developing and protecting tourism potential

- "Coastal resource management strategies should be designed to directly address: the reduction of poverty; maximizing employment opportunities; improving the contribution of and benefits to women; the long term sustainability of use patterns; interrelationships with other regions and resource management initiatives" *(Foer, 1991)*.

1993

- Publication of the Environmental Action Plan of Nicaragua (PAA-NIC) that provides the framework for the implementation of the ICM (MAIZCO) [*Sánchez, 2001. In: Andrade and Escobar, 2002*]

1996

(MARENA, 1996; In: Barragán, 2001; CIDEA, 2006)
- First stages of the Integral Coastal Zone Management Program, developed with Danish and Dutch support
- Publication (Law 217) of the General Law of the Environment and Natural Resources
- Key issues arise from the loss of common ownership of land *(Andrade and Escobar, 2002)*
- Pilot studies within the GEF-UNDP Environmental planning and management of highly contaminated bays in the bays of Bluefields, Nicaragua *(Dewalt et al, 1996)*
- "The aquaculture boom is now spreading to Nicaragua which is searching for investors to develop shrimp farms along the estuaries that connect with the Gulf of Fonseca"

1998

- Gulf of Fonseca aims (Mesoamerican Biological Corridor):
+ Strengthen the installed capacity for improving the coastal resources management through technical improvement and public awareness rising in the community, as well as in the professional and decision-making circles
+ Develop demonstrative coastal areas managed with sustainable use criteria
+ Develop a Territorial Ordinance Plan for facilitating the stakeholder's activities
+ Create training systems at regional and national levels, and research activities on fisheries *(Rodrígue Windevoxhel, 1998)*
+ Apply conflict prevention and resolution techniques in coastal management *(Lemay, 1998)*

- 'Planning for Rehabilitation, Environmental Management and Coastal Development in the Wake of Hurricane Mitch' designs plans for coastal waters management and development of collection and treatment systems in Nicaragua, Honduras and Guatemala.

1999

- Existence of a Constitutional and legal definition of Coastal Zone Management (CZM) Environmental Impact Assessment of Projects, Special Management Areas, Coastal Management Unit, Sectorial plans and laws of limited legal scope on MCZ Management
- Existence of two research centers: the Center for Hydro-biological Investigations (CIRH), focusing on national statistics on fisheries; and the Aquatic Resources Investigation Center (CIRA), performing coastal limnology research
- Elaboration and implementation (decree 14-99) of the Bylaw of Protected Areas of Nicaragua
(Windevoxhel et al, 1999; Heydman and Kjerfve, 2001; CIDEA, 2006)

2000 – 2001

- Preparation of the Environmental Action Plan PAA-NIC that incorporates the concept and the principles of Integrated Coastal Management (ICM)
- Planning for Rehabilitation, Environmental Management and Coastal Development in the Wake of Hurricane Mitch' plans for coastal waters management and development of collection and treatment systems and 'Reducing Pesticide Run-off to the Caribbean Sea' GEF – Projects
- A holistic, participative and democratic perspective guides the MAIZCO initiative
- Publication (Decree No. 100-2001) of the Policy Guidelines for the Sustainable Use of the Fishing and Water Resources, including biologic, economic, social, environmental and commercial criteria
- MARENA develops the Sustainability Criteria for the Shrimp and Lobster Fisheries, and for the Shrimp Aquaculture
(Sánchez, 2000; 2001; UNEP-CAR/RCU, 2002; United Nations, 2002)

2002

"The government is directing its efforts towards the organization and coordination of its institutions and sectors to reach a consensual Management and Integral Action Plan for the Coastal Zones using the Environmental Action Plan of Nicaragua (PAA-NIC) [1993] as starting point, and including the local, regional and national levels" *(United Nations, 2002)*.

2003

"Nicaragua still lacks a coherent strategy for managing coral reefs due to a general lack of awareness at high political levels about the important role that coral reefs play in supporting fishery resources and biodiversity, to inadequate legislation, serious institutional gaps and overlaps in managing marine resources and biodiversity, and the lack of human capacity to conduct monitoring, research and integrated reef management" *(Ryan and Zapata, 2003).*

2004

(Sbert, 2004; Metzner, 2008)

- Publication of the new Nicaraguan Fisheries Law
- Sectorial plans and laws on MCZ Management
- "Most Nicaraguan environmental management instruments are normative instruments"
- Existence of territorial ordinance
- Pilot program for the implantation of the sustainable tourism certification
- Existence of some cooperation agreements between national governmental bodies
- The Environmental Information System, with regional information centers, is being established'
- Lack of a procedure for elaborating bylaws and standards
- Lack of coordination between local authorities and the responsible persons of projects with external funding

2005 – 2009

(Metzner, 2008)

- Publication of the bylaws of the new Nicaraguan Fisheries Law
- According to Article 14 of the Fisheries Law, fisheries research is carried out by ADPESCA, and ADPESCA has to "draw a Fisheries and Aquaculture Research Plan, the result of which are to be the basis for technical recommendations and decision making in the fisheries management process"

PROARCA/Costas – Cayos Miskitos (Nicaragua) [Ochoa *et al*, 2001; Andrade and Escobar, 2002]

Period:	1991 – 1995	1997 – 1998	1999 – ?
Place:	Cayos Miskitos and Franja Costera Biological Reserve (→ *Biosphere Reserve*): Karatá and Wouhta Lagoons, Miskitos Keys, Layasiksa Forest.		
	Governance Baseline		
Main objectives:	- Creation of the Cayos Miskitos and Franja Costera Inmediata Biological Reserve - Draft Cayo Miskitos Reserve's Management Plan	- Support the local communities for developing management mechanisms for coastal and lagoon fishing, for lobster fishing in the keys, and for a forest small-holding of precious woods - Prepare and implement management plans for the Cayos Miskitos Biological Reserve (lagoons, coastline and keys) approved by the government - Establish structures and management mechanisms at community, regional and national levels - Reproduce the management model in other areas - Obtain the Declaration of 'Biosphere Reserve' for Cayos Miskitos Reserve - Support the ONG Mikupia as an active representative of the community in the reserve's management	*Objectives reformulation [the achievements in 1997 – 1998 excelled the initial goals]:* - Establish participative structures and mechanisms for the decision-making process in the allocation and use of the natural resources in the pilot areas of Cayos Miskitos Reserve including the local, regional and national levels - Improve continuously in the fulfillment of the management normativity in the Karatá and Wouhta Lagoons - Reach an agreement between the leaders of Sandy Bay, national authorities and businessman about the management of the lobster fishery in Cayo Miskitos - Start the planning process by identifying issues and mechanisms for the Cayos Miskitos Biological Reserve - Strengthen the integrated coastal management local capacity
Outcomes:	**Institutional outcomes** **1st Order** ***Formal Commitment*** - Creation of the Cayos Miskitos and Franja Costera Inmediata Biological Reserve - Creation of a Provisional Commission and of the ONG Mikupia for representing the local community for preparing the Cayos Miskitos Biological Reserve's Management Plan	**Institutional outcomes** **1st Order** ***Formal Commitment*** - Approval of the fishing normativity by the Karatá Lagoon Committee - The national authorities approve the creation of the inter-community inter-lagoon fishing management committees in Karatá and Wouhta, and Karatá, as well as their working guidelines - Cayos Miskitos Reserve is declared (2002) a 'Biosphere Reserve'	

	Formal Commitment & Unambiguous Goals - Final Cayo Miskitos Reserve's Management Plan draft approved by the Provisional Commission proposing to re-categorize the reserve as 'Biosphere Reserve' **Conduct and use changes** **2nd Order** ***Changes in Behavior of Institutions*** - Close season on lobster fishing ***Changes in Behavior of Individuals, Groups and Businesses*** - The legal and local diver's objections* that hampered several previous international efforts tending to create the Cayos Miskitos Biological Reserve were overcome. * ***Causes***: *a. within Biological Reserves, every productive use is forbidden* *b. the lobster fishing was done by divers*	***Formal Commitment & Constituencies*** - Creation of the inter-community Committee for managing the lagoon fishing in Karatá and Wouhta. - Creation of the inter-community Committee in Sandy Bay for managing the coastal fishing and lobster catching in the keys - Agreement between national authorities, the Atlantic Mesoamerican Biological Corridor Project and Proarca on a strategy for updating the reserve's management plan - Elaboration of the management plan (2002) by the Ministry of Environment and Natural Resources (MARENA) with support from PROARCA, WWF, and the Caribbean Conservation Association (CCA) **Conduct and use changes** **2nd Order** ***Changes in Behavior of Institutions*** - Monitoring of the shrimp development in the lagoon - Prohibition of motor boats in the lagoon ***Changes in Behavior of Individuals, Groups and Businesses*** - The Sandy Bay community starts auto-regulating the lobster fishing efforts in Cayos Miskitos. - Collective decision-mechanisms - Removal of fishing nets at the rivers' mouths **Environmental and socioeconomic benefits** **3rd Order** - The money earned by the fishermen has doubled - The shrimp and lobster prices have raised - The fishing efforts in the Karatá Lagoob have been stabilized

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Annex 6: Panamanian ICM Efforts, & Atlantic Mesoamerican Biological Corridor Project

1959
(Vasconez, 1991; Suman, 2002)

- Creation of the National Aquaculture Directorate (DINAAC) within MIDA (Ministry of Agricultural Development)
- Executive Decree #17 regulates fisheries

1979
(Suman, 2002)

- Creation (Law No. 17) of the Department of Fisheries and Related Industries.
- Creation of the Directorate of Renewable Natural Resources (RENARE) within MIDA (Ministry of Agricultural Development).
- New Constitution recognized beaches, shorelines, the territorial sea, and seabed as public goods that cold not be privatized.

1980's decade
(Vasconez, 1991)

- Law #21 (1980) regulates pollution from boats
- Shrimp mariculture development
- Focus on tourism
- Signature of a Tourism joint development pact with Colombia and Costa Rica
- Sectorial coastal resources management based on dispersed legal codes and institutions

1990
(Suman, 1990; 2002)

- Lack of effective coordination among the various institutions with jurisdiction in the coastal zone
- No agency had overall responsibility for managing the coastal zone and integrating sectorial interests
- Lack of a legal mandate for coastal management
- Resolution (The Ministry of Housing [MIVI]) requiring new shoreline developments to create a public access easement

1993
(Sorensen, 1993)

- No ICM

1994
(Rodríguez and Windevoxhel, 1998; Suman, 2002)

- Resolution JD-08-94 establishes a framework for management of mangroves
- Creation of the National Maritime Commission (COMAR) for generating recommendations tending to the institutional reorganization of the maritime sector
- Priority topics: inter-sectorial conflicts, especially in poor settlements depending on fragile, fast-altered ecosystems for surviving

1994 – 1998
(Espeut, 1998)

- Fisheries and coastal development issues fostered through the small communities approach

1995
(Suman, 2002)

- The Panamanian Tourism Institute (IPAT) establishes environmental protection standards for tourism projects in critical coastal habitats
- Law No. 58 permits aquaculture activities

1998
(Cicin-Sain and Knecht, 1998)

- No ICM

(Suman, 2002)

- General Environmental Law (Law No. 41) creates the National Environment Authority (ANAM) and establishes a broad framework for environmental management
- Decree Law No. 17 mandates the institutional reorganization of the maritime sector; and creates the Panama Maritime Authority (AMP) and its General Directorate of Marine and Coastal Resources and the General Directorate of Ports and Maritime Industries

1999
(Windevoxhel et al, 1999)

- Constitutional definition of Coastal Zone Management (CZM)
- Sectorial plans and laws on MCZ Management
- Environmental Impact Assessment of Projects
- Special Management Areas

2000
(Garcés, 2008b)

- Elaboration of the First IZM Plan in Darién Protected Area (UNESCO designation)

2002
(Suman, 2002; Arenas and Garcés, 2009)

- Formal ICM lacking, some attempts
- Extensive system of protected areas with more than 14 national parks: 1 coastal-land, 6 coastal-land and water protection
- Beginning of the Pilot ICM Project for Darién Province

2006

(ANAM, 2008; Garcés, 2008a; Arenas and Garcés, 2009)

- Creation (Law No. 44) of the Authority of the Aquatic Resources of Panama (ARAP) which unifies and decides on coastal and marine resources, aquaculture, fishing and related issues (previously governed by sectorially)
- Seven Special Management Zones (ZEM) proposed
- Coordination actions involving institutions and local governments, among which is the development of bylaws
- Achieved Integrated Coastal Management Plan and Atlas of the Marine and Coastal Resources of San Miguel Gulf (BID – AMP)
- Participation of Indigenous communities in the management of 4 Protected Areas (Kuna Yala, Wargandí, Emberá and Naso Teribe)

- Coastal Management Instruments:
  + Special Management Zones (ZEM)
  + Zone Committees: Multi-sectorial organisms in charge of the planning, implementation and follow-up of the local development and/or the Integrated Management Plan of the Special Management Zone
  + Conservation and Surveillance Units: Inter-institutional support agencies for coordinating all the involved coastal management authorities within their scope, resources and use of the coastal resources

- Priority topics: The Panama Channel; offshore mining; industrial fisheries and aquaculture; urban development; commercial ports and docks; construction of canals; tourism and tourist developments in protected areas, coastal zones, and islands; use of submerged lands; and ocean outfalls of sewage

2007

(ANAM, 2008; Garcés, 2008a)

- Creation (Law No. 18) of the Archipielago de las Perlas ZEM (168,771 ha) for protecting the coastal and marine resources, increase the productivity and maintain the biodiversity of its ecosystem
- 3 more ZEM in Declaration Process ('Proceso de Declaración')
- Participation of indigenous communities in the management of 2 more Protected Areas (Madungandi, Ngöbe-Buglé)

2008 – 2009

(Garcés, 2008a; 2008b; Arenas and Garcés, 2009)

- Achieved Integrated Coastal Management Plan and Atlas of the Marine and Coastal Resources of Bocas del Toro (BID – ARAP)
- Law declaring wetlands (including mangroves) as ZEMs
- Creation of the Veraguas ZEM
- Definition of fines for cutting down mangroves
- Bylaw for mammals sighting in coastal and marine zones
- Publication of ICM Technical Guidelines
- Design of the ICM monitoring and evaluation system
- Elaboration of coastal management indicators (Plan de Acción del Pacifico Sudeste - Proyecto Regional SPINCAM)
- National broadcasting of ICM monitoring and assessment achievements (Virtual Documentation Center, Webpage, Marine-Coastal Atlas)
- Participation structures (National Environment Authority (ANAM)'s advisory commissions) at 3 government levels: 'provincia', 'distrito' and 'comarca'

2008 – 2009

(Garcés, 2008a; 2008b; Arenas and Garcés, 2009)

Identified issues

- Lack of an on-purpose public policy oriented to ICM
- Highly centralized coastal decision-making
- Lack of a scientific, inter-disciplinary research program focused on ICM; the existing ones are the National System of Environmental Information and the UNESCO-COI Cooperation Program that envisions to activate the Hydrographic and Oceanographic Commission of the National Meteorological System
- Little-structured, not-related participation mechanisms; little participation culture

Recognized issues by the government

(ANAM-PNUMA, 2009)

- Insufficient and inefficient environmental management instruments
- Uncoordinated government efforts
- Weak government project selection criteria that neglect socio-environmental factors and that are rarely linked to market projects

***Notes*:**

- The Panamanian Coastal Cultural Heritage includes 24 coastal-marine protected areas, 6 of which are internationally recognized:
  + Natural Heritage (UNESCO, 2009): *i)* Darién (1985), and *ii)* Coiba (2005) National Parks;
  + Wetlands of International Relevance (RAMSAR, 2008): *iii)* Montijo Gulf (1990), *iv)* San Pond Sack, *v)* Punta Patiño (1993), and *vi)* Panama Bay (2003)

Atlantic Mesoamerican Biological Corridor (MBC) Project

(Mexico, Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama: Mesoamerica)

[The World Bank, 2005; López and Jiménez, 2007]

Definition (2000): The **Atlantic Mesoamerican Biological Corridor (MBC) Project is** "A system of land-use planning that features areas under various administrative arrangements including core natural areas, buffer zones, multiple use zones, and corridor areas. These are organized and consolidated in a manner that offers environmental benefits and services to Central America and the world. The MBC will provide opportunities for people to participate and promote investment in the conservation and sustainable use of natural resources. The [Its] purpose is to improve the quality of life of the Mesoamericans" (López and Jiménez, 2007). It turned into an umbrella project for a number of individual, local biological corridors projects.

Period:	1970s – 2000	2000 – present	2000 – 2005
Project / Place:	The Trifinio Plan: Guatemala, Honduras, and El Salvador	Mesoamerican Biological Corridor Project	Atlantic Coastlines of Panama
Main objectives:	- Establishment of the Fraternity Biosphere Reserve in the Montecristo Mountain, a region where the three countries' borders meet	- Improve the quality of life of Mesoamericans - Design a regional cooperation regime that would address ecosystem fragmentation and regional degradation, and their subsequent environmental and social problems - Generate conciliatory, trust-building, and collaborative processes between actors at different levels -from the government-led to local - Creation of trans-boundary biological corridors	- Implement information and planning activities that foster the biodiversity conservation in the corridor threatened by agriculture, logging, mining, and highways construction among other factors - Create institutional capacities and support activities within protected areas - Support the country's efforts to protect its biodiversity

Outcomes:	**Institutional outcomes** **1st Order** ***Constituencies*** - The Trifinio Plan achieves international recognition for developing a conservation and development strategy - Foundation (1970s) of the Paseo Pantera (Path of the Panther), a consortium of international organizations ***Unambiguous Goals*** - Paseo Pantera seeks to conserve the biodiversity by linking protected areas from southern Mexico to Panama - Paseo Pantera was redefined (1997) to integrate social and economic components to the Trifinio Plan setting the groundings of the Mesoamerican Biological Corridor (MBC) Project ***Formal Commitment*** - The Fraternity Biosphere Reserve in the Montecristo Mountain was established ***Institutional Capacity*** - Migration and customs agreements that opened frontiers, facilitated post-conflict dialogue, and built confidence and strengthened cooperation between countries and border communities	**Institutional outcomes** **1st Order** ***Unambiguous Goals*** - Definition of the Mesoamerican Biological Corridor (MBC) definition. ***Formal Commitment*** - Funding of the United Nation's Development Program (UNDP), Global Environment Facility (GEF) and the German Technical Cooperation Agency (GTZ) Funding - Development of the Regional Strategy for Biodiversity (ERB) and three regional programs ***Institutional Capacity*** - Development of institutional & technical capacities - Consolidation of the MBC project - Creation of coastal and Marine Trans-boundary Projects: + Atlantic Coastal-marine Biological Corridor (Guatemala – Honduras); + Gulf of Fonseca including 26 protected areas (Honduras – El Salvador – Nicaragua); + Corazón del CBM (Honduras – Nicaragua).	**Institutional outcomes** **1st Order** ***Constituencies & Formal Commitment*** - Establishment of normativity for planning and managing protected areas with participation of key actors ***Institutional Capacity*** - The biological monitoring system is designed as an integral part of the National Environmental Information System (SINIA) - Development of a Strategic Plan for Environmental Education in elementary and high schools - Implementation of key programs for formal and non-formal environmental education **Conduct and use changes** **2nd Order** ***Changes in Behavior of Institutions*** - Enforcement of regulations for the use, trade, management and conservation of wild flora and fauna **Environmental and socioeconomic benefits** **3rd Order** - Strengthening of protected areas

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Annex 7: Uruguayan ICM efforts

EcoPlata Program

Period:	1991 – 1996	1997 – 2001	2002 – 2005	2006 – 2009	**?**
Cycle name:	*Etapa* 0	*Etapa* 1	*Etapa* 2	*Etapa* 3	*Etapa* 4
	Research program CIID/93-151 *Etapa renamed in 2002 as:* **Identification of sectors, threatens and opportunities.**	Project URU/97/003 'Support for the integrated management of the Uruguayan coastal zone of Rio de la Plata' *Etapa renamed in 2002 as:* **Preparation: political, socio-economical and environmental context.**	**Assessment and diagnosis**	**Implementation**	**Consolidation, replication and expansion**
Place:	Rio de la Plata River	Uruguayan coastal zone of Rio de la Plata	All Uruguayan Coasts		
Driver:	- Sign of (1991) an Understanding Memorandum between the Government of Uruguay and the University of Dalhousie (Canada) - Agenda 21	Sign of (1997) an Inter-Institutional Agreement between the Ministries of Housing, Territorial Ordinance and Environment; of Stockbreeding, Agriculture and Fishing; of Defense; of Education and Culture, and the University of the Republic – Support of the International Development Research Centre (IDRC) Canada, the United Nations Development Program (UNDP), and the United Nations Organization for Education, Science and Culture (UNESCO).			
Main objectives:	- Understand the environmental factors and human activities that affect the spawning of the *Micropogonias furnieri* croaker (a species of high economical importance) - Contribute to the strengthening of the human resources, both academic and in the fishing sector, to prevent the degradation of the marine resources in the Rio de la Plata River	- Institutionalize ICM to consolidate an effective protection of sensible areas and secure the sustainable use of the coast. - Model incorporations: 1. Address Socio-Environmental Problems = Environmental + Social + Economic problems; 2. The outcome of ICM is a coastal sustainable development, which implies a good quality of life for human communities and well-being of the coastal ecosystems. - Strengthen the participation and coordination of institutions and actors - Generate & systematize knowledge through information gathering - Coordinate technical & administrative activities inherent to the project - Engage stakeholders on capacity development			

EcoPlata Program

Institutional outcomes
1st Order

Unambiguous Goals

- Monitoring schemes and indicators
- Defining where, when and how ICM should be implemented.

Constituencies

- Rise of public awareness
- Incorporation of the community's perception, knowledge & opinion into the communication system
- The civil society is informed about the coastal zone state & how to participate in its development
- Theoretical model of institutional structure for coastal decision-making processes that takes into account the community
- Achievement of social compromise at local level in several territories
- Involvement of new social actors and organizations in existing local networks

Formal Commitment

- Development of enduring funding mechanisms
- Joint efforts of 4 (National) Ministries, 6 Department Governments and the University of the Republic through specific agreements to sit on EcoPlata's Board of Directors
- Creation of the Coordinating Commission to Support Integrated Coastal Management [Decrees 186/001 and 310/001 (2001)]. EcoPlata is appointed as the coordinator of its technical secretariat

Institutional Capacity

- Generation of reliable information on the spawning of the *Micropogonias furnieri* croaker (*Etapa 0*)
- Inter-institutional and multi-disciplinary approach to complex themes
- Strengthening of scientific capacities
- Establishment of the basis for research, planning and policy formulation
- Support to research, planning and policy formulation
- Technology transfer, zoning and scenarios generation
- Promotion of the generation of knowledge, and its transformation into action
- Training promotion
- UdelaR master's course in ICM
- Micro-projects and Pilot areas
- Strengthening of the existing institutional network at national and local levels
- *(Still developing)* Effective institutionalization of the ICM

Conduct and use changes
2nd Order

- *(Ongoing)* Culture change

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Annex 8: List of Acronyms

ANAM:	(Panamanian) National Environmental Authority
CARICOM:	Caribbean Community
CBP:	(Uruguayan) Coastal Biodiversity Program
CCPSFM:	Coastal Contamination Prevention and Marine Biologic Diversity Management (Argentina)
CIZEE-CR:	Inter-institutional Commission of the Exclusive Economic Zone of Costa Rica
CGG:	Centre for Globalization and Governance
CRC:	Coastal Resources Center of the University of Rhode Island
DOAJ:	Directory of Open Access Journals
DSSMCZ:	(Uruguayan) Declaration of Solís on the Sustainable Management of Coastal Zone
ECLAC:	United Nations - Economic Commission for Latin America and the Caribbean
EEZ:	Exclusive Economic Zone
FDI:	Foreign Direct Investment
FPN:	Fundación Patagonia Natural
GDP:	Gross Domestic Product
GEF:	Global Environment Facility
GESAMP:	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
IADB:	Inter-American Development Bank
ICM:	Integrated Coastal Management

ICT:	Costa Rican Institute of Tourism
ICZM:	Integrated Coastal Zone Management
IHDP:	International Human Dimensions Programme on Global Environmental Change
IMF:	International Monetary Fund
IMPPCZ:	Integrated Management Plan for the Patagonian Coastal Zone (Argentina)
ISCMPA:	Inter-jurisdictional System of Coastal-Marine Protected Areas (Argentina)
JPOI:	Johannesburg Plan of Implementation
LOICZ:	Land-Ocean Interactions in the Coastal Zone
MARENA:	(Nicaraguan) Ministry of the Environment and Natural Resources
MCB:	Atlantic Mesoamerican Biological Corridor project
MERCOSUR:	Southern Common Market
MINAE:	(Costa Rican) Ministry of the Environment and Energy
MPA:	Marine Protected Area
MVOTMA:	(Uruguayan) Ministry of Housing, Land Use Management and the Environment
NAFTA:	North American Free Trade Agreement
NAS:	(American) National Academy of Sciences
NGO:	Non-governmental Organization
OAS:	Organization of American States
PNUMA:	United Nations Environmental Programme
SADS:	(Argentinean) Secretary of the Environment and Sustainable Development

SEMARNAT:	(Mexican) Secretary of the Environment and Natural Resources
SIDA:	Swedish International Development Agency
TNC:	The Nature Conservancy
UdelaR:	(Uruguayan) University of the Republic
UN:	United Nations
UNDP:	United Nations Development Program
UNEP:	United Nations Environment Programme
UNEP-ROLAC:	United Nations Environment Programme (UNEP) - Regional Office for Latin America and the Caribbean
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UNSTATS:	United Nations Statistics Division
UNWTO:	United Nations World Tourism Organization
WB:	The World Bank
WWF:	World Wild Fund for Nature