

# **INTEGRATED COASTAL ZONE MANAGEMENT**

## **From sector policy to integration and devolution?**

Bjørn K. Sagdahl

Presented at the Circumpolar University Association (CUA) conference,  
University of Aberdeen, Aberdeen, Scotland, 24 – 27 June 1999



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\* Department of Social Sciences Høgskolen i Bodø (Bodø College) Norway

## **Abstract**

The paper is focusing on the Norwegian experience in conducting integrated coastal zone management (ICZM); a political objective advocated by international organisations as UNESCO, The World Bank and the European Union (EU). The paper examines the driving forces for this development in a Norwegian context. By outlining the policy, the tension between sector rational and integration is discussed as well as the tension between centralised state management and regional interests, favouring devolution of power. A multi-institutional perspective constitutes the analytical frame for the general discussion, where the concept ICZM as found in international literature is criticised. The Norwegian experience documents that it is more a matter of being able to conduct a co-ordinated policy than an integrated one.

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## Introduction

This study will focus on the development of coastal management in Norway and how to explain the development of the growing ambition of conducting a policy of integrated coastal governance. Traditionally, oceans and coastal waters have been regarded as areas for open access, rooted in the *Mare Liberum* concept. Although remains of this tradition still are working, the post-war period has brought about a rather drastic shift. Growing awareness that the sea based resources are limited and vulnerable for exploitation, as well as growing competition for exploitation of available sea based resources, have paved the way for the nation state to expand its territory and governing capacity.

The origin of institutionalised governance is, however, older and far more complex. To understand the contemporary changes in coastal resource management, it is crucial to understand that the pillars for institutional construction are old and deeply rooted in the Norwegian society. The “coastal commons”, developed over centuries, have been characterised by established property rights and rules. Although being mainly uncodified, they are still working as the foundation for political and judicial governance. That means that the evolution of governance and institutions should not be seen apart from their normative base. Institutions for governing natural resources are in addition often arranged in layers, where the same resource can have several different institutions pertaining to govern it - often originating from different periods in the development of modern European societies. New institutions are added on, while older institutions are rarely made completely defunct. This complex empirical world of institutions, forms both the possibility for governance of the coastal resources as well as the obstacles for integrated management. The bottom line is that the governing authorities are faced with a rather complex interest structure in outlining and implementing policies for the coastal zone. The political and institutional landscape is heterogeneous and often found to be contradictory in questions of defining formal rights and adjusting economic activities to former established ones. And with growing knowledge and awareness of ecological limits for political solutions and international environmental obligations to fulfil, balanced solutions have to be found. Besides the political costs of outlining a policy under pressure from affected and often competing interests, the state of the actual ecology is the ultimate measure for success or failure. Integrated coastal zone management as advocated in international literature seems therefore to be a rather ambiguous objective to be reached if possible at all. Even co-ordinated policy could be hard to be achieved in such a context or policy formation at all. Despite these rather pessimistic views we find that over time, there has been a public development in search for co-ordination and more integrated solutions and that some progress has been made. We shall here render for some basic traits of the development of the Norwegian experience of coastal zone management. What have been the driving forces? How is management organised, how does it function and how do we explain for its possible malfunctioning? To what extent can we say that co-ordination and even integration in managing the coastal zone takes place?

## Some analytical perspectives

Layers of norms, rules and institutions as mentioned above do not necessarily work together. Nor have they done so in the past. The challenge of integrated coastal zone management is as such a comprehensive political-administrative project. The ultimate indicator of its success or failure is the state of the ecosystems of the targeted areas. That makes integrated coastal zone management (ICZM) somewhat different to public policy in many other fields, where political “failures” often have less measurable consequences. Besides, nature does not normally speak for itself, nature’s “interests” have to be “interpreted” and advocated by human actors. Their interpretation is, however, highly dependant on their “social construction of nature”, which in the case of the complex wet/dry coastal ecologies, makes coastal zone planning and management quite different to shore-based management alone.

The concept of ICZM could be regarded both as a goal to be reached as well as a method for dealing with inter-related and complex management situations. The literature has tended to focus primarily on land-sea interface and methods for management of multiple use of such areas. Economic activities in the littoral zone, siting policy, protection of wetlands and public access to the shoreline are some of the causes that has triggered off efforts of co-ordination. The methods of planning to prevent and solve user conflicts are frequently used in such situations. And with the rather strong Norwegian tradition of public planning, the littoral zone has also been targeted ( Langdalen 1994). It can here be instructive to divide the Norwegian coast in two main sectors: the “Leisure Coast” between the Swedish border and the southernmost point of Norway, and the “Working Coast”, i.e. the Western and Northern Coasts. This report is mainly concerned with the latter. The main actors dominating the struggles over the coastal zone here are municipalities and the sector agencies of the state (the public) as well as private actors, corporations and organisations (the private). Thus the property rights characterising the coast are usually seen as being either of a private or a public character. To secure public access to the shoreline and sea has in Norway been regulated by law. And although its enforcement has lead to restrictions on exclusive use of private land and sites in the shoreline and with subsequent protests from the owners, the public right to access as such has not been at stake for discussion. The cultural roots of the ancient right of unhindered access of the public was rather a “public passage right” (*tjød*), but is today formalised by law practise as the right of everyone to access the coast (*allemannsretten*). While other countries with another tradition of property rights in this particular zone, have addressed these institutional questions somewhat differently and have found other solutions.

Moving to the sea based areas the arena was more dominated by a traditional common access to its resources and with less public interference as the shoreline fades in the distance. Coastal waters and the high sea areas have traditionally been common grounds for coastal dwellers. The tradition of planning is besides considerably weaker than for the littoral zone. The property rights have been those of the commons and the state has been the central policy maker, mediator and peace-keeper. Relations to other nations are also aspects to be found on this arena, a matter for the highest level of government to take care of. The tradition of the coastal waters as common grounds and the high seas as “free” areas have been strong and prevalent and is reflected in international law. Policy-making and conflict resolution has therefore been different in the “wet” part of the coast compared with the shoreline and adjacent areas. Another body of literature, not so much linked to co-ordinated management of the shoreline areas, has focused on marine waters, fish stocks, sea-territories etc. as basis for different ways of organising resource based activities. Social sciences have given substantial contribution to this literature focusing on aspects as property rights, decision-making rules,

distributive mechanisms, institutional design and conditions for co-operation (Pinkerton 1989, Ostrom 1990, Jentoft 1998).

Technological and economic development has brought an increased and diversified use of the coastal zone, bringing the two parts together. Introduction of coastal economic zones have brought former commons to a matter for national management and international law. A rather large body of literature has developed, focusing on integrated coastal zone management, treating the shore line and the belonging coastal waters as a single interacting unit. According to Clark, the key is a unitary management of the zone (Clark 1997). Moreover, it has to be defined functionally rather than geographically. Thus the extent of the arena has no well defined and fixed limits. Or as put by Clark it should include "...all land areas affected by the sea and all coastal waters influenced by the land" (Clark 1997). Governing such areas most often implies involvement of all governing levels; state, regional and local public authorities as well as private actors and organisations. And in a number of cases, the state is often the key actor, and not always the neutral mediator.

ICZM is meant to be an answer to managing problems where co-ordinated action is needed. This is not often achieved by top down policy and management, but by co-operation of those affected. Legitimacy to goals and means is hardly found where a policy has been imposed, but where it is elaborated in a co-operative manner with participation of those affected. Arenas for learning and problem solving could be said to be more important than ambitious master plans. And the mediator role probably has become more important than the formal decisional one in the case of integrated management. This is because public policy making in many cases is dependant on bringing opposing interests together for problem-solving, bargaining and compromises, rather than top down rule by decree or law. The analytical perspective of an incremental policy-making, seems by such reasons to have more explanatory value in this context than simple models of rational choice.

Developing ICZM does not necessarily means developing new institutions. Moreover it implies bringing about co-ordinated action of those established in a sustainable ecosystem perspective. Some of the established actors are well rooted in coastal zone management, backed by formal organisations and established political-administrative networks, having a well established perspective on problem formulations and solutions out of their own experience and interests. Likewise there are other clusters of interest, dominating on other fields of the coastal zone, with other interests and perspectives on needs and solutions. Not all of them are confronting and disposed for conflicts, but some are. And as the total resource base in the coastal zone has been taken into use to an increasing degree, the potential and number of conflicts has also risen. Multiple use of the resources or areas, linking sea and shore, involves a multi-institutional perspective on management. Supreme and co-ordinated management is therefore an overwhelming political task, if possible at all. Or as stated by Cicin-Sain and Knecht (1998):

"The goals of integrated coastal management are to achieve sustainable development of coastal and marine areas, to reduce vulnerability of coastal areas and their inhabitants to natural hazards, and to maintain essential ecological processes, life support systems, and biological diversity in coastal and marine areas. Integrated coastal management is multipurpose oriented; it analyses implications of development, conflicting uses, and interrelationships among physical processes and human activities, and it promotes linkages and harmonisation between sectoral coastal and ocean activities."

The purpose of this report is somewhat more modest; to outline the managing system as it has developed in Norway and to give some explanations to its development, form and way of functioning. The need of management has undergone substantial changes over time. Those who first dominated the arena have had to let others in, and some of them have constituted conflicting interests. An actual example is the conflict between fishing and petroleum activities. But besides accounting for actors and interest structure, our main focus will be on public policy formation for the coastal zone. What activities and interests could be said to function as propelling forces for integrated planning and management? What are the managing ambitions in practise? What are the limitations and what strategy for development has been used? At what level is management taking place and what are the relation between sector management, regional and local government? Between planning and action? These are some of the dimensions we meet in outlining ICZM in a multi-institutional perspective. We choose here to exemplify with North Norwegian experience, a region that always have been almost totally depending on its coastal resources.

One of these resources is the Wild Migrating Salmon. In Northern Norway this resource has a very special significance, together with Sea Trout and Anadromous Arctic Char. The Salmon traverses numerous institutional resource managing regimes along its homing route from the open ocean to its mating grounds in home river. It is therefore extremely vulnerable to institutional decay and incompatibility in these various regimes. Property rights to Salmon have for one thousand years been an important part of river rights, often separated from navigation rights of rivers or the rights to the kinetic energy in the water (*fallrett*). The co-operation of river salmon-rights holders and government agencies with respect to the various local stocks of salmon, are the best examples of co-management in Norway. At the mouths of rivers and in the fjords leading to important salmon rivers, there are also important property rights to permanent net- or weir- sites at strategic points (*kilnot*) with a secure steady catch. These require intricate floating constructions and the property rights are usually tied to individual farmsteads with property rights to shore lines and were part of the old property tax base for the farmstead. Even in rivers where wild Salmon have disappeared, these weir-rights are dormant and tend to be revitalised if the river salmon stock is rebuilt through a stock enhancement programme (PUSH Sluttrapport 1997). Further out towards the open sea, salmon catches are less secure and property rights less strictly defined. Also in Northern Norway did a special drift-net fishery for salmon develop along the coast, where certain coastal communities specialised on salmon drift-netting. These were usually fishermen with no previous salmon rights connected to rivers or permanent net-sites.

Today the drift-netting for salmon is prohibited along the entire Norwegian coast. The ban was introduced as a temporary measure in 1989 to help rebuild the dwindling stocks of salmon, after heavy pressure from the river-salmon-rights-owners and the sport fishers' associations. However, the various local stocks of salmon were not rebuilt as a result of the ban, but continued to diminish. This was now allegedly as a result of "genetic pollution" from runaway farmed salmon, but it was probably also caused by a reduction in stock enhancement effort due to a stricter ideology of genetic purity of the separate river stocks. But in spite of this unclarity in the causal relationships, drift-netting for wild salmon is not likely to be reintroduced along the Norwegian coast. In many respects the transverse salmon is an excellent indicator organism for measuring the institutional health of the coastal zone. When the stocks of wild salmon are dwindling, it indicates that something is wrong with the institutions governing the coastal zones of Norway.

## **Growing management needs and expansion of the governing areas**

Despite the rather appalling situation for wild Atlantic salmon, farmed salmon has had a far greater impact on planning and management of the coastal zone. It was the need for physical locations that triggered the first planning of sea based areas at different management levels of society. In a way it could be argued that the emergence of the aquaculture industry as well as the petroleum industry that more or less coincided in time, brought a new area of management of sea based territories. The latter brought also the need for national control over new areas by increased and extended national jurisdiction. Norway became for that reason an active player in pressing for solutions in international law of the seas, and was one of the first countries to establish a 200 nautical miles economic zone.

The establishment of the extended economic zone at 01.01.1977 ended a rather long period of struggle over national jurisdiction of the Norwegian coastal waters. Since the end of the second world war there was an almost unbroken period of disputes over the extension of the sea based borders and the distribution of rights. What was typical to Norway compared with Icelandic policy in this field, was the chosen commitment to act according to recognised legal solutions. Norway as a major sea power in shipping and fishing, being a NATO member, had to find balanced solutions in co-operation with the affected countries.

The first dispute with UK of asserting a 4 nautical mile sea limit, was brought to the International Court of Justice. The result was positive for Norway and the verdict in 1951 was accepted by both parties. But the court decision did not end the unrest on access to the coastal resources and demands for an extended border soon became a political reality. While Norway sought international acceptance for the extension to a 12 nautical miles fishing border, Iceland chosed not to wait for an international solution and proclaimed the new border in 1958. The result was the “cod war” with UK. And when Norway followed up in 1961, a transitional period of ten years was granted to foreign trawlers. The result was highly unsatisfactory for the coastal fishermen that had been pressing for a border extension. Hence the fishing border question became a hot political topic throughout the 1960s (Mikalsen and Sagdahl 1982). And with improved fishing efficiency, the fear of depleting the important cod stock became real. Even with the new regime, there were “loopholes” where unrestricted fishing could continue. At the turn of the decade, demands for a new border extension were voiced, especially from fishermen in Northern Norway.

In 1972 Iceland decided to establish a 50 nautical miles fishing border and signalled even a further extension to 200 miles. That lead Iceland into her second “cod-war” with UK and a transfer of foreign fishing capacity in Icelandic waters to the coast of Northern Norway. The demand for a national extension to 50 nautical miles, to follow the Icelandic example, followed immediately, especially voiced from the coastal fishermen from the northern part of the country. The government was heavily criticised, arguing for an expected international solution in the near future. And as the internal political pressure increased due to lacking international negotiated results, Norway had to negotiate temporary solutions. In 1975 trawl-free zones were established, an event that eased the political pressure for a unilateral extension. These zones gave the coastal fishermen using passive gears some protection to gear losses caused by trawlers, but still there was a considerable political pressure working for an immediate extension of the fishery border, especially from the coastal fishermen and their organisations in the northern part of the country.

The Norwegian announcement of a 200 nautical miles economic zone (EZ) establishment as early as the 01.01.1977, was to a great extent a response to internal political problems. Still there remained considerable international work to finish and agree upon the new Law of the Sea convention. And being an emerging oil nation, there was an undisputed national interest in an extension of national jurisdiction of the sea territory. The importance of this political objective is reflected in the establishment of a special designed secretariat, the “Havrettssekretariat”, with a corresponding cabinet minister being responsible just for a rather narrow field of work. This organisational solution represented a rather rare incident in the modern history of Norwegian cabinets. Normally the ministers’ responsibilities correspond with the one for ministries, but not in this case. The appointed minister, Jens Evensen, was former the most experienced executives in the law of the sea questions at the Foreign Office, and was the one that pleaded the Norwegian case at the Haag Court at the turn of the 40ies. He was also the main Norwegian architect of the distribution of territories in the North Sea and the neighbouring sea areas, as well as a central working force in elaborating UN Law of the Sea and strategies for acceptance at the international conferences during the 1970s and the 1980s. Norway’s rush to establish the zone in 1977 is reflected by the fact that the convention became ready for acceptance 17 years later and was ratified by Norway as late as 1996.

### **Institutional development and international co-operation.**

Norway, with a coastline of 2650 km. when bays and fjords are included, expanded vastly her territory by the Law of the Sea development and came out of the policy process as one of the world winners. Being a small country in population, only 11 other nations have a larger economic zone (Andresen and Fløistad 1988). The “new territory” was rich in resources and the challenge was now to govern these resources according to the principles laid down in the new convention. The rather incomplete and temporary solutions in the north, where the border line and the principles involved drawing it, was a matter of discussion with the former Soviet Union, meant an extra challenge to management. And the negotiated compromise of 1976 to establish a “grey zone” tended to be enduring as time passed by. Besides, there was the international waters around the Svalbard Isles and Jan Mayen, that complicated the general picture of national jurisdiction and the ability to govern in accordance with the principle of sustainable resource management laid down in the Law of the Sea. Although the legal formalities of the Norwegian establishment of “fish protection zones” in these areas have been disputed, most of the vessels operating in these zones have accepted Norway policing these waters.

The introduction of the economic zone and the growing public focus on marine resources during the 1960s and 1970s, was also followed by an institutional development and increasing international co-operation. The petroleum activities brought forward a new labour market, new professions and new management needs. This was partly reflected in new interest organisations, science and education. While the Labour Union (LO) formerly had a weak position as to the sea based labour market, the organisation now expanded its sphere of influence. And competing organisations were also established. The growing importance of petroleum activities at sea and shore lead at the end of the 1970s to a new Ministry of Oil and Energy and a subordinated Oil Directorate was also established. With growing importance for regional and national economy, the petroleum sector became in few years a strong political actor. These activities were of an international character from the outset. Contrary to many other oil producing nations, the sea based petroleum industry was in a Norwegian context a state matter and closely controlled by the state. The need of international co-ordination and

co-operation, planning and national co-ordination was a state responsibility and had top priority at the national political agenda.

While environmental questions up till then most often had been neglected, there was a growing attention towards environmental management needs in the wake of the growing petroleum activities. Besides there was a general shift in political focus favouring environmental question on a broad scale, influenced by an international environmental movement. A Ministry of Environmental Affairs was established in 1972, the former State Pollution Agency was reorganised and become subordinated to the ministry, as well as the Directorate of Nature Management. During the 1970s environmental policy became increasingly targeted, especially from the younger generation. Green movements developed, calling for an alternative policy. New laws were passed, rendering legal authority for public interference and management of environmental questions and protection of nature. And with the growing internalisation of environmental policy that developed, this field of policy also grew in national political importance. The new ministry had an ambition of becoming in a superior position being responsible for spatial planning. And it challenged the established knowledge system by its ecological approach. Pollution was formerly a matter for the Ministry of Industry to deal with. Now it was regarded in an ecological approach that could easily imply confrontation with the industrial-economic growth perspective that had dominated the post-war period.

The political focus on marine pollution was not only due to the growing petroleum industry, but also to the general industrial and city development in the post-war period. Some fjords and coastal areas in the south were reported to be rather heavily contaminated, while pollution was not regarded to represent any problem for other areas. The new ministry launched comprehensive programs for the inner Oslo-fjord and for the Mjøsa lake. But the growing petroleum industry also brought focus on the “outer waters” as well as the “inner” ones for the risk of pollution. With an important fishing industry and emerging fish farming at the coast, the fear for pollution became a hot political topic in the fishery dependant areas. And as experience with the petroleum industry was gained, it became clear that waist and litter at the sea bed in the drilling areas, represented a serious problem that often resulted in gear losses and collisions for those fishing in the areas. The reorganised State Pollution Agency had therefor to expand its responsibility also to include the growing economic activities at sea.

The establishment and growth of aquaculture had also severe impacts for the management needs of the sea areas. Like the petroleum industry it started in the late 1960s and was well established at the time when the coastal zone was established. The growth of this industry with the need for locations at the coast and the local pollution that followed, called for policy formation and management at all governing levels. Economic and interest organisations were established within the industry, and the development was also followed by a corresponding growth in public agencies, especially for the Directorate of the Fisheries. Besides, the licensing system that soon was introduced, increased the managing role of the Directorate.

The period of the last part of the 1960s and the following decade brought a growth in multiple use of the coastal and sea areas, organisational and institutional development. Besides, there was a considerable growth in international co-operation in questions of environment and natural resources. This process was well established when the work for extended national jurisdiction of the coastal zones was gaining ground in the 1970s. The 1970s initiated a shift in attitudes and international agenda formation as to management of natural resources and environmental questions. The first global conference on environment held in Stockholm at

1972, paved the way for the later development of international conventions on environmental questions and natural resources. Norway became a central actor heading the UN World Commission on Environment and Development (1983), often referred to as “the Brundtland Commission”. The focus on an ecological and environmentally based economic development, sustainable development, presented in its final report, received world wide attention. It was followed up at the Rio conference (1992) that resulted in two international treaties, two statements of principality as well as with an agenda for globally sustainable development. The Agenda 21 asked all governments to elaborate national strategies for sustainable development. The main responsibility should be a national task, but the governments were encouraged to work in close co-operation with international organisations, local councils, industrial actors and voluntary organisations. Norway has ratified the conventions, joined the statements and followed up the agenda work. But the implementation of the Rio results is above all depending on the ability to follow up the principles in conducting an intra-sector environmental policy as well as inter-sector co-ordinated policy, the very challenge of coastal zone management.

However, the Rio Declaration on environment and development could be said to set new standards for integrated coastal zone management. Among the principles, we should especially mention the ecosystem approach and the principle of precaution, i.e. that lack of sufficient scientific knowledge shall not be used as a pretext for not taking action to protect the environment. And the Convention of Biodiversity was of special relevance for integrated coastal zone management, as a working programme for marine and coastal biodiversity was included . But what especially should be noted, is the international frame for national policy and management that followed from the Rio work. And that UN also followed up by the use of commissions and conferences for unsolved questions and evaluation of national practise (Lafferty et al.1997).

Other conventions with implications for coastal areas could also be mentioned as the Ramsar Convention on wetlands and the Bern Convention on protection of wild plants and animals in their natural habitats, the OSPAR convention on pollution and safeguarding of the marine environment as well as the similar objectives laid down in the North Sea co-operation to protect marine environment. But we also find more specific obligations for coastal zone management as in the case of the OECD recommendation on Integrated Coastal Zone Management (1992), giving principles and methods to be followed up by the member states. The European Council followed up by elaborating the report “Model-law on Sustainable Management of Coastal Zones. Pan-European Code of Conduct for Coastal Zones” (1998) giving guidelines for law making and management. Some years earlier, in 1966, the Commission had started up a “Demonstration Programme on Integrated Management in Coastal Zones ”, including also a Norwegian test case. The recent published publications from this programme; “Lessons from the European Commission’s Integrated Coastal Zone Management” and “Towards a European Integrated Coastal Zone Management Strategy”(1999), giving principles and policy options, make The European Community an important driving force for establishing and improving integrated coastal zone planning and management.

The Norwegian experience of an integrated coastal zone policy has been influenced from this work, but has also a background of its own. While the international foundation for conducting integrated coastal zone management gradually became more fully developed, the national obligation for Norway to perform sustainable management for living marine resources according to the law of the Sea principle had then been working for a substantial number of

years. Besides, the growing industrial activities at sea and shorelines, petroleum and fish farming, called for improved co-ordination of management of the sea areas during the 1970s.

## **The outer sea areas - integrated planning and management**

Some of the managing challenges Norway was facing concerning the new sea based territories, were new ones while others were rooted in the old regime. They all coincide more or less with a division of the sea areas in an “inner” and an “outer” part. The last one mentioned brought on the new governing tasks as for petroleum related activities and the national responsibility of conducting a sustainable management policy for fish stocks of the area, mostly in common with neighbouring countries. These areas were previously common grounds with common resources. In the following we shall focus on the “outer commons”, where the new regime brought a change to the former property rights and the access structure.

The management of the large ecosystem of the migrating species, the straddling stocks, was one of the new managing challenges. One of these was the stock of Norwegian-Arctic cod, the economic and politically most important one. While the former regime of international co-operation and management dealing with the cod stock, the North East Atlantic Fishery Commission (NEAFC) was losing ground due to its inefficiency (Gjørven, Lundby 1977), the managing task became bilateral with the establishment of the new economic zone. In fact, a co-operation with the former Soviet Union was already established in the wake of the breakdown of the NEAFC. The Norwegian-Russian Fishery Commission, established by a bilateral treaty in December 1974, was already operative at the introduction of the new regime. And from 1976 on it negotiated the quotas of shared stocks on the advice of the biological recommendations from ICES (Sagdahl 1992). Despite some considerable ups and downs of the state of the shared cod stock in the following years, the management policy has succeeded in preventing the stock from depletion and a total ban as has been the case for the one at Newfoundland.

Although the co-operation apparently seems to have been rather successful, it has been argued that the policy as it developed, has not strictly been based on the principle of sustainability but on a varying blend of economic interests, political bargaining and biological facts. It has been characterised as “balancing a brink”, a policy of which the biological considerations have been rather neglected and with drastic variations in quotas as a result (Sagdahl 1985, 1992). Our purpose is not to discuss this management policy as such, more to evaluate its potential contribution to integrated coastal zone management. Two aspects should be especially noted.

One is the co-management aspect of the management policy opening up for strategies and management means. The traditional conflict between the coastal fishermen and the trawlers have become accelerated after the quota system was introduced (Sagdahl 1992). An advisory committee for elaborating distributive solutions and regulatory policy has been put up, where representatives from the Fishermen Union and some other affected parties participate. It seems true to maintain that this committee is the clue to understand the political aspects of the management policy. What should especially be noted, is the interdependency of the way the decisional process is organised and its legitimising function. And with a record of close to 25 years of experience, this arrangement seem to be well established, although the flows of solutions have been heavily disputed. But the co-management experience as such, both with Russia as well as the one for national distribution, has proved rather successful in the continuing problem-solving. It has represented arenas for learning and compromising where

solutions could be worked out. Such experience could be said to represent the very core of the efforts of conducting an integrated coastal zone management policy.

The other aspect is not so promising in view of an integrated coastal zone management perspective. The lacking ability to conduct a multi-species-management policy has been prevailing despite the obvious need for such a policy. Although this management perspective has not totally been left out in the policy formation process, it has not been an important platform for creating a practical management policy. The fisheries have developed to be rather specialised and conflicting interests and the political costs to impose a purely biological based policy on the industry have been too high. What has been regarded as biological facts, have also turned out to be inadequate and partly wrong, so the uncertain and immediate character of the knowledge could also be said to be working against a multi-species model of management. And with interest groups pressing for favourable short-term management solutions, sustainability is not always the key word for understanding the process. One example is the interdependency of the capelin and the cod stocks of the north, where capelin constitutes the most important feeding base for cod. Two completely different groups of actors have opposing interests in how these two stocks are managed by fishing regulations. Hence the regulatory policy for these two interacting species often have been incompletely co-ordinated. Capelin fishing should not be allowed when a growing cod-stock need this as crucial fodder, but this has been very difficult to achieve. Multi-species management is therefore not only hard to achieve because of incomplete scientific modelling reasons, but not at least for political reasons. The political costs of imposing a more biological correct policy have often been regarded as too high.

For the same reason learning from former experience is not evident. One could easily expect that the learning experience from the rather industrialised fishing on herring in the 60ies and the 70ies, leading to an almost total depletion of the resource, should have learning implications for the later crisis of the cod fisheries. Such a link could hardly be argued to be found (Sagdahl 1992). It seems true to assert that retrospectively speaking the political aspects of management shed considerably more light on the outcomes than biological facts, models and learning experience.

Besides the management challenges of the renewable resources of the coastal zone, the growing petroleum industry represented a pressing problem since the start in the mid 1960s. The introduction and adjustment to existing economic activities in the zone, represented both politically and biologically careful planning and policy formation. And when oil was found in 1970, the need for a co-ordinated policy increased. Probably no other sea based activity has made a bigger contribution to integrated planning and inter-sector policy formulation of the "outer commons." Although the exploring drilling phase is different to the one of production of oil and gas, the exploring phase has politically probably been the most political difficult one to handle. When oil is found, the economic values involved will easily lead to a process where other affected interests to the areas have to adjust. But opening up new blocs for exploration drilling, implies the possibility for loosing the area for fishing, if petroleum is found. This has presupposed careful political calculation and outlining of a policy. Besides, there is the potential danger of pollution by a blow-out, that is regarded higher in the exploring than in the production phase.

The expansion of oil activity areas to north of the 62 degrees latitude, represented a fare more complex political challenge than the situation further south (Seierstad, Sagdahl and Sandberg 1985). The previous Ekkofisk blow out in 1977, had proven the dangers of severe pollution.

The spawning areas around the Lofoten Isles, functioning as some kind of a geographical barrier for drifting spill and pollution from the waters further south due to the Gulf stream, represented an extra barrier to expanding the drilling areas. The sub-arctic climate represented also a more fragile ecosystem and a longer period of break down of any spills. The Fishermen Union argued that the security level was insufficient and that it had to be acceptable before approving the expansion, but the union was not able to prevent it. In general, the fishermen's organisation felt inadequately represented in the oil related decisional processes, despite the fact that the fisheries were negatively affected.

The change to a more co-ordinated policy from 1977 onwards was partly a response to the criticism raised as well as to the expansion plans of drilling in the northern waters. The opening of new exploration areas now demanded Environmental Impact Assessments and consultative arrangements were made to mitigate the criticism from the Fishermen Union. But despite the measures taken, the following expansion to the northern waters were objected to by fishermen due to what they still regarded as insufficient security. Once established, the incremental nature of the policy led to a growing and rather widespread exploring activity although the fishermen union never has accepted the security measures as sufficient. Andresen and Fløistad conclude the following at the end of the 1980s:

“As it seems now, there are so many and such strong interests attached to the continued expansion of drilling on the northern continental shelf that the fisheries sector does not have much chance of modifying the petroleum activity. They might get compensation, but they probably cannot influence the speed or direction in which the petroleum activity is going”(Andresen and Fløistad 1988).

More than 10 years later we may add that contrary to the lacking influence from the fishermen, it is rather the market forces that has slowed down the oil activity in the north at the end of the 1990s. Co-ordination with the fishery sector is still being questioned. Or as the mayor of one of the most oil- exposed municipalities of the Lofoten Isles publicly stated: that he opposed the development of an expanding petroleum sector, but realised that the political battle was going to be lost.

Summing up the experience of management concerning the outer waters, it could hardly be denoted integrated. Sector management has been developed and improved, but there still are considerable lack of both inter-sector and intra-sector co-ordinated management. This is not merely questions of giving priority or that there is no need for these types of co-ordination. The main explanation is most likely to be found in the organisation of public sector and the belonging political networks. The state is not a unilateral actor but appears a a multi-institutional one with narrow political space for elaborating and conducting a supreme and integrated policy(Olsen 1978). The perspectives on management is first and foremost rooted in the rationales of the sectors and the belonging interest structure despite ratified international conventions and commitment to supreme managing principles. Besides, the considerations of economic growth, sustainable management of natural resources, biodiversity and living up to the principle of precaution do not easily fit together. But this rational has never been seriously challenged and put on the national political agenda. The policies remains still rather disintegrated at the end of the 1990s(Lafferty et al.1997).

## **The inner sea areas - integrated planning and management.**

While the growing petroleum industry and the national control with the renewable resources that followed from the establishment of the economic zone, gave an impetus to planning and co-ordination for the outer sea areas, the fish farming industry could be said to constitute the propelling force for planning of the inner sea areas. This industry grew out of the collapse of the industrialised herring fishery at the western part of the country, where capital had been accumulated during previous prosperous years. The entrepreneurial start in the 1960s developed into a promising industry during the 1970s and a spread northward along the coast (Seierstad, Sagdahl and Sandberg 1985). Nordland County with the longest coastline of the counties, well suited for fish farming, was facing a growing management need for a location policy. Public regulation of the growing industry by permits was introduced, but the local problems of location was not solved. Although municipal planning was well established, it had traditionally not focused on the belonging sea areas. The entrepreneurial pattern was from the beginning characterised by clusters of fish farms, exercising pressure on suitable areas for location and thus forcing local municipalities to act. Municipal planning at sea therefore grew out of local problems as in the municipality of Herøy (Helgeland), where about 20 permits were clustered too densely in the 1980s. Herøy's coastal plan of 1987, a very early plan developed in co-operation with the county administration of Nordland and state agencies at the county level, was a pioneer work. And Nordland County produced a county plan for aquaculture as early as 1985, thus pioneering sea based planning at the county level.

At the state level the Ministry of Environmental Affairs was the driving force behind improved planning and co-ordinated action for the inner sea areas (the coast). The former Building Act of 1965 was revised in 1985 to the Planning and Building Act, comprising planning for wetland and sea areas although limited to what could be denoted as municipal harbour areas. Another revision soon passed Parliament in 1989, extending the planning for sea based areas to the "basic line", drawn from the outermost points at mainland or isles. This meant a substantial expansion of planning tasks, imposed on the municipalities if planning was needed. Still it was an optional task, but was highly recommended where sea based activities could lead to spatial conflicts. An approved coastal plan would facilitate the process of establishing fish farms and enhance the municipal influence over the local waters. Otherwise state sector agencies operating affected sector laws would be the ones to decide. The approving authority for the municipal plans was delegated to the municipality itself. But in case of protests from affected parties as neighbouring municipalities, the county or state sector administration as the one for the fisheries, the Ministry for Environmental Affairs would be the one to give the final approval of the plan.

Previous to the emergence of planning, the county of Sogn and Fjordane at the request from the State Executive of the fisheries of the area, in 1984 initiated a case study of making a coastal zone map. This work was supported by the Ministry of Environmental Affairs and represented an early stage of the following- up of coastal planning. This early mapping documented the diverse actors, interests and the potential for conflicts of the inner coastal waters. The following interests were mapped; fish farming, fisheries, sea-weed and sea tangle harvesting, sand and gravel from the sea bed, protection of nature, recreational activities, recipient concerns, pollution, potential locations for sea wave electricity plants, landing of oil and gas, deposition of cables, water pipes, traffic, road construction and general construction concerns in coastal shore areas. This list of interests widen the scope of managing needs for co-ordinated action. Although other counties could have mirrored a somewhat different list of interests, it documented the challenges of management for the years to come. It was presented

in 1987 and the ministry followed up the very same year by initiating a complex evaluation of the coastal zone denoted the LENKA project, actualised by the fast growing fish farming industry.

The full title of the LENKA project was the “countrywide evaluation of the Norwegian coastal zone and watercourses for suitable location of aquaculture.” Its main objective was to pave the way for further growth of the industry by a territorial planning approach, estimating the carrying capacity of the coast line and elaborate guiding principles. It was also meant to contribute to the municipal and county planning for coastal areas and watercourses and to running management of localisation of new plants. The potential for inter-sector conflicts was also mirrored in the involvement of four ministries supporting the project. A special secretariat was put up at the initiating Ministry of Environmental Affairs, but both the Ministry of the Fisheries, the Ministry of Agriculture and the Ministry of Municipal Affairs contributed to its implementation. Some de-centralised sub-secretariats were also put up. The counties and the state sector administration of environmental questions as well as the one for the fisheries at the county level, became central actors in its implementation. The co-operative character of the work reflected the need for a common framework to be developed. The work was ended in 1990 and presented to Parliament as a white-paper with policy recommendations. All of the coast open for aquaculture had been evaluated and especially the one north of the south-west to the Russian border. It was now up to the coastal municipalities to follow up the work in their implementation of the Planning and Building Act. According to the white paper, further LENKA work should be integrated in the revision of the county planning for the sea areas. It was also recommended that future co-operation between the state sector agencies for the fisheries and environment should be formalised in questions of protection of marine areas (NOU 1990:2).

Nordland County had at that time already gained considerable experience in coastal planning. But it was a process of learning, how to limit and determine the scope of sea based planning and to define the actual areas. The county administration was as earlier mentioned in 1984 involved in guiding municipal planning for sea areas in the Helgeland region. This was before the scope of the planning law was expanded to include also sea areas. In 1987 the county followed up by presenting guidelines for coastal planning as a part of the municipal plan, and underlined that such plans should comprise far more than just suitable areas for aquaculture. The county was in a way some steps ahead of the general planning movement initiated by the ministry in the late 1980s. The municipal planning experience from the Helgeland region was some years later, in the early 1990s, followed up by the county in co-operation with the Ministry of Environmental Affairs. This time in developing a coastal plan for the whole area. In this project 17 municipalities co-operated. The plan was presented in 1995, representing a pioneer work and was entered as the Norwegian contribution to the European Demonstration Programme for Integrated Coastal Zone Management. At that time the planning act was already revised (1989), opening up for municipal coastal zone planning. The county presented shortly thereafter a coastal zone plan (1997). Still the county was in a lead of sea based planning in Norway, and significantly ahead of the policies of the responsible ministry. The county also followed up the Rio Declaration with a Regional Agenda 21 the following year. Besides, a comprehensive coastal nature protection plan had been elaborated by the environmental office of the county’s State Agency, representing also a pioneer work as the first ever made. It seems to be fair to conclude that Nordland county has set a record in coastal zone planning in a rather broad context. The county administration is also one of the biggest in the country, something that probably shed some light on its capacity to carry

through planning and adapting to political signals from superior governing levels at an early stage.

Planning experience from the Helgeland region has set an example for co-operation in planning for the municipal sea areas. It is referred to in a recent white-paper from the Ministry of Environmental Affairs, presented in March 1997, that the experience of co-operation and the establishment of a shared secretariat for guiding and assistance could improve planning at the municipal level. It was followed up by the ministry in 1996 when a development project of coastal planning was launched. Counties were encouraged to develop such plans, to gain experience and competence in co-ordination of administrative routines and planning. Three counties have been chosen to participate in the project, which also are backed by the Ministry of the Fisheries and the Ministry of Administration. A central criteria was the documentation of an approach for co-operation among the most important actors, the county and the state agencies at the county level, as well as for the coastal municipalities of the county. The chosen criteria illustrate some of the main the problems of integrated planning of the coastal zone.

While all of the sea neighbouring municipalities and counties have the authority to initiate their own coastal plans, according to the Planning and Building Act, the Ministry of Environmental Affairs have elaborated specific state guidelines for coastal planning of the densely populated areas. Almost 40% of the Norwegians reside in a driving distance of one hour to the Oslofjord and Skagerak coastline. These areas are popular as holiday resort spots during the summer and are rich of natural and cultural values. Public availability of the shore areas have been dramatically reduced, by 75-80%, during the last 30 years. A state initiative and close co-operation with the counties and municipalities of the area are thus required by the centrally made guidelines. A similar development close to densely populated areas at the western and middle part of the country may call for similar state initiatives and influence of how problems are to be perceived and met. Traditionally the state has had and still has a strong position in the Norwegian governing processes at all governing levels of society, and the state is easily called upon when problems arise.

Coastal zone planning in Norway is still at an early state of development, but an increasing number of coastal communities are gaining experience from this form of planning. Of the 280 municipalities along the coast, 180 reported in 1996 that they had or was about to elaborate planning for their coastal zones (Sandersen 1998). But planning for such areas differ substantially from shore based area planning. The sea areas are penetrated and scattered by sector interests, where sector agencies exercise influence and power over their share or function of the zone out of jurisdiction that are not necessarily harmonised. Coastal zone planning has by that reason been characterised as planning in an institutional battle field (Sandersen 1998). While planning is supposed to solve problems, it may contrary bring dormant problems to the fore and provoke sector agencies in defence for their traditional way of functioning rather than making a climate for common problem-solving. The planning approach, the organisation of the planning process, arenas for communication and learning are by that reason vital aspects of coastal zone planning as a managing mean.

Besides, planning most often implies restrictions to the traditional free use of the zone for the coastal dwellers, although this has more to do with cultural rooted perceptions than reality. The coastal zone and it's resources is not any longer an arena for flexible adaptations. It is rather strictly regulated, although not on the basis of local terms and perceptions (Seierstad, Sagdahl and Sandberg 1982). But planning will imply even more regulations, and the local

attitudes towards this kind of planning could by that reason vary from rejection to support. Giving political priority to coastal planning, is by that reason not evident for coastal municipalities, especially when it is not imposed on them from superior authority. The Planning and Building act makes it a voluntary task although highly recommended where sea based activities are taking place.

Another point should also be noted. The coastal communities seem to perceive the planning needs differently. While environmental questions are regarded important for planning at the southern part of the coastline, they are of dwindling relevance going northward (Bennet 1996) These questions are not regarded as important in the north, where the motivation for planning is more closely linked with questions of economic development. And as management of the sea based resources, the most important ones, are subject for management by superior sector agencies, coastal zone planning may be regarded as a waste of time(Sandersen 1998). Despite the fact that coastal zone planning in the Nordland County has been targeted by several municipalities and the county administration since the early 1980s, still less than half of the county's coastal municipalities have an approved coastal plan. Coastal zone planning seems apparently not to be an objective of high priority for many of the coastal municipalities and probably for a number of reasons. By this they open up for superior authorities to settle potential conflicts among affected resource users of the zone, bringing about more time absorbing and politically noisy processes than needed in case an approved plan was working.

With growing environmental concerns and international obligations to fulfil, the coastal zone has become an important field of work for the Ministry of Environmental Affairs. The present experience has documented that superior governing often brings about political costs that influence the final outcomes in a negative way. Bringing the sectors together in co-operation for balanced and common problem-solving, seems for that reason to have been chosen as the main strategy after years of confrontation and disputes. The development projects for coastal zone planning at the regional level that were launched in 1996, were to a great extent motivated by the need of improved co-operation among the sector agencies and the municipalities (St. meld. nr. 29 1996-97). Being the responsible ministry for area planning as well as for environmental, conservation and protection of nature question, there is a great potential for conflicts with especially the Ministry of Fishing, handling the interests of the traditional resource users of the zone. Although co-operation among these ministries have improved during the 1990s, as in the case of elaborating the mentioned guidelines for coastal zone planning and resource exploitation (T-4/96), the implementation of sector policy still turns out to be rather disintegrated.

## **From coastal planning to the challenge of integrated coastal zone management**

The Helgeland project, being a part of the former mentioned EU demonstration programme, revealed some of the fallacies of planning for co-ordinated management of the coastal zones. The municipalities are the basic actors for planning of the areas, but not all of them had planning capacity or was willing to make a priority to planning. Planning were also organised differently, varying in political centrality and communicative patterns (Jørgensen and Kjørsvik 1995).

One of the main objectives of the project was to define the judicial problems of enabling efficient planning and implementation. The relation between the municipality as responsible

for area planning and the state's sector administration of the fisheries and aquaculture as well as the one for environmental questions was targeted. The most crucial obstacle to efficient coastal zone management was "the objection right" of agencies of the state at county level. These operate under specific sector laws which are regarded to be legally superior to general laws such as the Planning and Building act. The municipalities are therefor in a weak position to implement their coastal plans in matters where the state agencies for the fisheries or the environment have the decisional power by sector laws. Protests from individual or organised interests, combined with such an objection right, did in many cases complicate and modify the governing ambition of the plan. In fact, the experience of the Helgeland project was that it was much easier to solve local confronting interests than questions where superior sector administration was involved. By the very organisation of the planning process, making a meeting place for communication and problem solving, local participants gained experience and found the meetings stimulating for further work (Jørgensen and Kjørsvik 1996) Although representatives from the state sector administration at the county level were brought in during the local process, they were still likely to object to the plan afterwards. The conclusion was that for local level coastal zone planning, inter-sector co-ordination at regional and national governing levels were the main challenges.

This was strongly demonstrated in the work of establishing a coastal protection plan for Nordland County. Managing the Nature Protection Act the state sector agency for environmental questions is legally entitled to take care of the protection planning needs. It's authority in this respect was not disputed, but how the agency perceived the needs and communicated with those affected. The fact that the plan represented a pioneer work as the first one to be made in Norway, made it extra difficult to carry the planning process through. Earlier established national parks that also affected the coast as well as future plans for more national parks in the county, was not a favourable background for an enlargement of protected areas. The agency was therefor met with suspicion at the outset and the planning document became heavily disputed. The coastal political network was mobilised, bringing the case to a parliament decision saying that the plan should be parked until new directions for managing the balance between use and protection had been worked out. The Ministry of Environment had therefor to start a delicate political task to review the case and present a white paper for a parliament decision on this matter. A similar case from Troms County that developed some months later had also contributed to this outcome. It should be added that thematic protection plans existed in other counties, but the coastal protection plans for Troms and Nordland were the first attempts to produce integrated plans for the coastal areas. And by this they challenged the coastal traditions, established practise and "rights" to a degree that was hardly foreseen. The most influential and leading opponent was in both cases the state agency for the fisheries. In the Troms case the agency was not willing to review the plan at all, rejecting the very approach to the protection question. A fundamental conflict was thus displayed, partly anchored and supported by locals and adjacent interest organisations. But it was first and foremost a conflict between two state sector agencies at the regional level, the one for environment and the one for fisheries, where the latter was defending traditional practise and hegemony of management of the zone.

A recent study on regional management of renewable marine resources supports also the finding from the Helgeland project (Sagdahl 1998). Fishery regulations are matters for the Chief Executive of the Fisheries, the above mentioned regional state agency under the Directorate of the Fisheries. The fishery sector has a long tradition of co-operative, or consultative resource management, but within the fisheries sector only. These decisions are made at the state level in close co-operation with the Fishermen's Union. A special

arrangement has been made for solving user conflicts at fjords and the inner waters by presenting the cases for a regional advisory committee. The representation is mainly made up by specialised fishing interests of the county, suggested by the County Fishermen Union. Due to former criticism of lack of influence from the local level, the County Council is allowed to have one representative and the cases presented are to be channelled through the affected local council.

Traditionally there has been conflicts among local users and visiting vessels drifting with net and trawl, especially at fjords where the local users are dependant of the sustainability of the local resource system. This is mainly gear conflicts but include often arguments of protection of nursery areas and spawning grounds for local fish stocks as well as fear of over-fishing of the available local resources. These resources have not only been exploited by local fishermen, but also by locals in general, representing a traditional way of life with access to local common resources. In addition the establishment of fishing camps for tourists, taking advantage of access to local fish resources, has increased the diversity of affected interests in the management of these resources.

Despite the fact that the Planning and Building Act have provisions for marine protection and conservation areas, the Salt Water Act as handled by the fishery sector administration is formally regarded as superior in the handling of specific cases. Local fishermen unions and county councils have mostly been turned down in their efforts to have introduced specific regulations. In Nordland county a practise of equity in gear types have dominated the policy, giving no protection for local interests. Besides, the question of the existence of fish stocks as recognised local stocks have been disputed, as something the local advocates for regulations up to recent time could not scientifically prove. Marine research have now documented the existence of such local fish stocks, but still there has been a sector resistance to adjust to such facts and move away from top-down sector policy and to a more integrated, locally and regionally based one. In a way both the above mentioned cases demonstrate a sector defence, a state agency being pressed to share influence in management of what has been regarded solemnly fishery questions. A position that is backed by an argument that the agency has decades of experience in handling sustainability, environmental and protection questions.

Another actual example of disintegrated sector management is the way the relation between stocks of wild salmon and raised salmon is handled. Salmon is reported to be extinct in 44 river-systems, in addition to being threatened in 55 more rivers (NOU 1999:9). Although the causal explanations to this development may be complex and disputed, the establishments of salmon farming enterprises are regarded as one of the major reasons. The spread of diseases and salmon lice, huge numbers of escaped fish from the ponds invading the rivers and spawning areas, have been pointed at as some of the explanations to the dwindling stocks of wild salmon. While wild salmon is managed by the Ministry of Environmental Affairs, the aquaculture industry is a matter for the Ministry of the Fisheries. And the growth and economic importance of the industry for the national economy and municipalities along the coast have been considerably more influential in policy-making than the advocates of wild salmon conservation. While the interest structure attached to wild salmon and salmon rivers are scattered and not used to behave as pressure groups, their opponents consist of politically well-trained organisations, with direct access to important political-administrative networks. Despite adhering to the principles of precaution and biodiversity, there is in Norway a long way to go from these principles to the actual policy formation when confronting interests meet in the coastal zone. Integrated coastal zone planning is one step, but merely a wishful vision in a situation where the managing tools belong to sector administrations, and is

embedded and guarded in regionally and nationally organised economic interests. Besides, there is no sector authority being superior to the others in such matters. Co-ordination has to be gained by dialogue and co-operation, consequently coastal management problems very often end up at the cabinet level.

As to questions of protection and conservation of remaining, non-exploited watercourse areas, the cabinet has decided on state guidelines, giving special political attention to the matter. The Ministry of Environmental Affairs states in a later white-paper on regional planning and area policy, that these guidelines should not only work for planning reasons, but should also be used within the frames of sector laws in the running management. Although positive results have been reported as to road construction in watercourse areas, a transition of former practise to co-ordinated policy will easily challenge the established interest structure within the actual sector. And as argued above, especially in cases of managing living marine resources. This conflict is well reflected in the government's white-paper of 1997 on regional planning and area policy ( St meld nr 29 1997-98), where it is stated that the Plan and Building Act has less relevance in matters of resource management and questions of protection of marine biodiversity. These should be matters for the sector administration to handle according to sector laws as the Aquaculture Act and the Salt Water Fishing Act. The most balanced formulations were made and decided on only at the top level of the involved ministries according to our information. Although the link between environment and industrial exploitation was focused, the white paper did not give signals of any formal co-ordination with the management of living marine resources. What was needed, it was argued, was improvement of knowledge, a better dissemination of information and guidance and mutual co-operation. An example of this was given, i.e. the elaboration of shared guidelines for planning and resource use of the coastal zone (T-4/96), a mere collection of relevant acts and prescriptions for planning and resource management. But although being only a modest step towards integrated coastal zone management, it represents a willingness of improved contact and co-operation between the fisheries sector and the "environmental sector".

The ministry's white-book on planning documents indirectly the shortcomings of integrated coastal zone planning and management so far. Further it documents that the national level is the one lagging behind the local developments and that the real challenges are to provide co-operation between the state's own sector agencies and co-ordination between the sector managing levels. To establish co-operation among these actors and gain more experience in common problem-solving seem to be the main idea of the previous mentioned developing projects, launched by the ministries. An incremental process of mutual learning seem to be the strategy, where the Ministry of Environmental Affairs has taken on the role as a path finder. The governing ambition was spelled out in a former white-paper, "Environmental policy for a sustainable development"(St. meld. nr. 58 1996-97). The policy for sea based areas and activities was here seen in a broad perspective and in relation to international co-operation and a number of treaties. Among the announced policies, the protection and enhancement of biological diversity should be given high priority. And the sector responsibility to implement environmental objectives should be strengthened as well as the role of the municipalities in the follow-up of the Rio-conference, the results of the Local Agenda 21, all through the use of the Planning and Building Act.

Comparing the ambitions spelled out by the Ministry of Environmental Affairs to the one found in later policy documents from the Department of Fisheries, the environmental scope is now narrower and the international obligations hardly mentioned. In a white-paper on aquaculture presented to the Parliament almost three years after the Rio conference, reference

to the outcomes are hardly found (St. meld. nr. 48 1994-95). A change of the main objectives of the Aquaculture Act to include *sustainable development* was mentioned, but this change took place prior to the Rio conference. Critical remarks were made concerning the pressure on the industry by planning in coastal areas and the work of establishing areas of marine protection. What characterised the white-paper was a rather traditional sector perspective under pressure from the superior environmental concerns. But if we move on to a later paper by the ministry concerning policy for the development of the fishing industry as a whole, the environmental approach is clearly improved. The principles of sustainability and optimal resource use according to the Law of the Sea convention, the one of precaution as well as the ecosystem approach for management, are introductory mentioned. Gradually the influence from international environmental work seems to be gaining ground in sector administration, at least in policy documents.

But besides of the influence from the international community, the actual conflicts between sectors, between use and protection of the coastal resources, as revealed in the mentioned cases of coastal protection planning, have also contributed to a more sharpened focus on co-operation among the sectors and with local users. The governmental white paper ( St. meld. nr. 43 1998-99) that was presented in 1999 as a response to this conflict, was stressing this recipe. The overlapping authority for sea based areas The Nature Protection Act was founding, was said to imply close co-operation with the fishery sector and further work to clarify its use for such areas. But the ministry made it clear that the law should also apply for protection of sea based areas, eventually being subject for a revision making it more specific for such purposes.

The white paper represented the latest updating of the governmental policy for “integrated” coastal zone management. International obligations, protection and sustainable use of the coastal resources, advocating the Principle of Precaution in matters of resource use in protected areas were stated as guidelines for the policy. But fishing activities could be combined with the protection purposes, although some areas of special value should be kept apart as reference areas. The size, number and rules of protected areas should be subject for careful consideration, and future policy should be based on the advise from an advisory committee, representing affected public and private interests.

The political signals in the white paper were that use and protection could be combined. Besides, evaluation for eventual updating of the protection rules should be considered, so that the protection status could adjust to the development of science and the society. Further work should be based on the results from the mapping and surveillance activities of marine biodiversity, launched by a former white paper on “Environmental Policy for a Sustainable Development” ( St.meld. nr. 58 1996-97). And as for the cases that had caused the elaboration of the policy document, the marine protection plans for Nordland and Troms, it was stated that such plans should just apply for these counties. The consequences should be carefully considered and the size of the area in the Nordland case was to be reduced. The Nordland case was suggested to be a test case where eventual applications for dispensation to the protection rules, should be handled by an inter-sector advisory group.

The bottom line of the new policy document was extended co-operation among affected sector authorities, local participation and devolution of power. These signals could be seen as direct responses to the experience gained in planning and management of common property resources, but also to principles laid down in international environmental work as exemplified in Local Agenda 21. There is a rich body of literature documenting positive experience of co-

management of common pool resources (Jentoft 1998). The main advantages have been improved legitimacy and reduced levels of conflict by formal co-operation and user group influence. One should bear in mind that resource management is not a technical-biological device but regulation of human behaviour by lining out and implementing a policy.

State regulation of areas and natural resources have caused increasing suspicion and distrust to the ability of state sector agencies to handle conflicting interests. Long lasting conflicts have over the years worked for devolution of power, for decentralisation, delegation and local influence. The most frequently challenged ministry has been the Ministry of Environmental Affairs. To enable local government to live up to environmental standards and international obligations, the ministry has worked for an improvement of the local managing capacity. Although there was a set-back in this development when a state subsidy was removed, environmental work is gradually gaining ground at the local level (Sagdahl 1998). Despite shortcomings of relevant administrative expertise and managing capacities, the municipalities have been pressing for local management of common pool resources. Especially state management of nature parks has been disputed and targeted. The political signals in the presented policy document "Protection and use in the coastal zone" (St. meld. nr. 43 1998-99) represent a strengthening of a development that has been asked for. Close co-operation in planning for protected areas was underlined and that local management of protected areas could work for improved legitimacy and efficiency. But areas of international values, so called "Ramsar areas", should be managed by state sector agencies at the county level. Still the message was that improved co-operation, co-influence, decentralisation and delegation constituted important policy element for the future. The parliamentary review could even end up by strengthening this course.

## Conclusions

Despite an improved environmental approach in later policy documents, integrated coastal zone management is still embryonic and the sector management approach is still prevailing. And improved co-operation in planning does not necessarily imply co-ordination in the daily management when confronting interests meet. But it could also be argued that the emergence of sea-shore based protected areas, improved wild salmon management by stronger links between rivers and fjords if implemented as well as the emergence of new types of coastal industry, sea ranching, will strengthen the links between sea and shore, revive focus on rights and access to common grounds. These are some of the challenges we are facing at the turn of the century, making the traditional administrative structure and way of functioning inadequate and disposed for change.

The political objective of integrated coastal zone management (ICZM) will most likely just be an objective to be reached at, although the term is frequently used in denoting managing processes for coastal areas. The empirical facts in the Norwegian case document an institutional structure and development of policies that could hardly be denoted integrated. Improved co-ordination seems to be a more adequate term in the Norwegian case. It should also be noted that ICZM is both an objective and implies methods and not a policy analysis approach as such. Further it should be noted that the environmental and ecosystem approach is meant to be an integrated part of sector management, not only among sectors. To understand processes working for or against these political objectives, political science with its focus on institutions and processes can give a major contribution. So far, the literature on integrated coastal zone management is rather poor as it comes to such contributions. At the turn of a millennium where environmental questions set the political agenda to an increasing degree, this field of study represents a challenge for political science.

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