

# Tropical Coasts

A newsletter for policymakers, environmental managers, scientists and resource users.

Sponsored by • Sida Marine Science Programme • GEF/UNDP/IMO Regional Programme on Partnerships in Environmental Management for the Seas of East Asia • Coastal Management Center

## Getting Our Acts Together: Resolving Conflicts in Coastal Zones



# EDITORIAL

The history of global politics and economics is a story of conflict over finite resources. The finite nature of coastal resources combined with its open access have given rise to more complicated issues resulting from the absence of identified priority of uses and a scheme to manage these varying priorities. Conflict has been defined as the adverse effect of one coastal and marine resource use on other resource uses or vice versa. Coastal use conflicts can range from competition for space to spill over effects arising from pollution. The geometric rate of growth of the population in the East Asian Seas region increases the likelihood of conflict to take place because more and more people compete for diminishing resources.

This issue of the Tropical Coasts tackles several very controversial stories, which took place in the last few years. At the height of these controversies, these stories occupied headlines of the major newspapers and were covered extensively by the broadcast media. The story of Boracay, for example, even took on national significance and was taken up in a Cabinet meeting of the Philippine government. These controversies were also highly emotional for the parties concerned. Bolinao, a small coastal town located in the province of Pangasinan, Philippines, was polarized into warring groups because of a proposal to set up a large cement plant complex in the town. Families and friends became bitter enemies as they became embroiled in the feud.

Coastal conflicts which are not well managed pose a threat to local peace and order. In Thailand, small-scale fishers who already had violent encounters with commercial fishers because of the decrease in fish stocks were further agitated by the introduction of shrimp farming. Shrimp farming further reduced the fish stocks because of pollution from the ponds and the depletion of mangrove areas. Aquaculture also resulted in salinization of ricefields, killing the rice crops and angering the farmers.

This issue of the Tropical Coasts, however, takes a retrospective look at these stories to find a new perspective. It provides a narration and analysis of the key issues and personalities involved in the controversies and methods undertaken to transform the conflict into a meaningful process leading to understanding and cooperation on coastal issues. Most of the stories in this issue ended on a very positive note. It is worthwhile to understand and identify the elements that led to the transformation of the coastal disputes into positive changes. For example, critical to the success of the Salmon Aquaculture Review (SAR) undertaken in British Columbia was the integrative and holistic approach utilized. The participatory, transparent and integrated SAR process helped minimize the conflict among various interest groups.

Thus far, case studies on dispute resolution are often limited to mediation or negotiation processes undertaken in the heat of the controversy. Few studies have been undertaken on methods for preventing or avoiding disputes in coastal areas. Integrated coastal management offers a pro-active management strategy for possible coastal conflicts. The article on shrimp aquaculture in Thailand provides insights on how an integrated coastal zone management plan can prevent the escalation of conflicts created by the different activities that occur within the coastal zone.

With the increasing complexity of issues and conflicts that coastal managers face, appropriate dispute resolution methods offer a tool to transform coastal conflicts into issues which can propel positive changes to respond to basic environmental problems besetting the coastal community.

*Ingrid Rosalie L. Gorre*, Issue Editor 

Editorial • 2

**The Basics of Appropriate Dispute Resolution: A Must Read for Coastal Managers**

*Ingrid Rosalie L. Gorre* • 3

**Boracay: A Case Study on the Use of Conflict Management to Catalyze Collaboration in Coastal Management**

*Florisa C. Almodiel* • 8

**Resolving Salmon Aquaculture Regulatory and Management Disputes in British Columbia**

*Jennifer Aldrich* • 15

**Dispute Management Within the Framework of the EIA System: The Case of the ECC Application of the Bolinao Cement Plant Complex**

*Marie Lourdes Baylon* • 22

**Shrimp Aquaculture and Resulting Conflicts in the Thai Coastal Area: A Golden Opportunity**

*Maria Socorro Z. Manguiat* • 28

Newsbriefs • 31

Conferences and Workshops • 37

Announcements • 38

Facts and Figures • 40

ISSN 0117-9756

# contents

# The Basics of Appropriate Dispute Resolution: A Must Read for Coastal Managers

*In a region composed of almost 1.8 billion people where resources are steadily diminishing, coastal conflicts are inevitable. People usually have different ideas on how coastal resources should be used, thus, giving rise to conflicts.*

Conflicts in coastal zones usually involve the equitable distribution of access to the sea and the conservation of coastal resources. Balancing interests of the various constituencies in the coastal area, as well as ensuring the sustainable use of the coastal resources are essential tasks of the coastal manager. In a 1996 cross-national survey, ninety-five percent of the respondents from developing countries and eighty-seven percent of respondents from middle developing countries considered conflict management as an important function (Cisin-Sain and Knecht, 1998).

In coastal areas, there are two kinds of conflicts: 1) user conflicts and 2) agency conflicts. Examples of user conflicts include conflicts between:

- navigation vs. fisheries;
- fisheries vs. biodiversity conservation;
- boundary conflicts;
- tourism vs. waste disposal;
- small scale fisheries vs. commercial fishing;
- and
- mining vs. fisheries vs. biodiversity.

These conflicts can occur in varying degrees. It can be latent, emerging or manifest. A latent conflict is “characterized by underlying tensions that have not fully developed and have not escalated into a highly polarized conflict. Often, one or more parties may not be even aware of the existence of the conflict” (ADRP Project, 1997). An emerging conflict is one where parties are identified and all acknowledge the existence of the dispute. Most issues are clear, but no workable negotiation or problem-solving process has developed. Finally, manifest conflicts are disputes in active process. These may be in the negotiation stage or parties may have reached an impasse.



Possible causes of user conflicts include:

- competition for ocean space, e.g. aquaculture and fisheries;
- competition for the same resource, e.g. commercial and small fishermen;
- competition for a linked resource, e.g. fishermen and marine mammals pursue salmon;
- negative effects of one use on the ecosystem harboring another use, e.g. navigation — oil spills and fisheries; and
- competition among users for similar onshore space or facilities in port harbors, e.g. recreational activities compete with aquaculture (Cisin-Cain and Knecht, 1998).

---

## Assumptions in a Conflict

- **Conflict is inevitable.**
- **Conflict creates change.**
- **Conflict can transform our understandings of each other.**
- **Conflict leads to a clarification of options and forces competing solutions.**
- **Conflict is double-edged. It carries potential risks and benefits.**
- **Conflict generates energy. Conflict has binding and dividing properties.**
- **Conflicts can be productive or unproductive.**

Source: ADRP Project, 1997.

---

Agency conflicts, on the other hand can result from personal differences in management style; apparent conflicting mandates, e.g. oil agency and environmental agency; different constituencies with opposing actions; and lack of information and communication among them (Cisin-Sain and Knecht, 1998).

In order to deal with the issues and conflicts in coastal areas, coastal managers must have a basic understanding of the nature of conflicts, the ability to identify the various options and roles which each party can take in conflict situations, and processes which can be utilized for conflict management.

## Elements of conflict management

### Diagnosing the Conflict

Conflict has been defined as the struggle between two or more people over values, or competition over status, power and scarce resources (Coser, 1967 cited in ADRP Project, 1997). Hence, the first thing to look for in scanning the conflict is to identify the parties to the conflict. What are their interests? What are their positions in the existing conflict? Are they willing to find a mutual solution to the conflicts? What are the strengths and weaknesses of the parties? Who are the stakeholders in the conflict? Is there a person who can influence the parties to sit down and negotiate the problem? Are there third persons or institutions who can act as facilitator or mediator?

#### Checklist of Things to Look For:

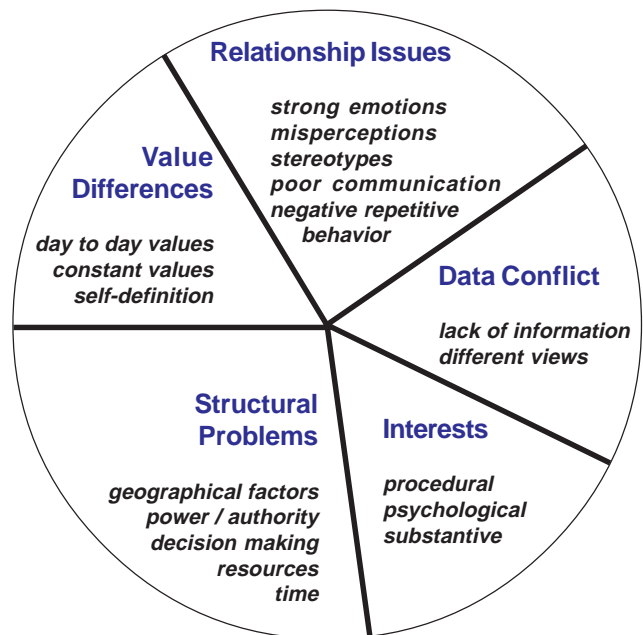
- \* **People** - interests of groups and individuals, values, concerns that must be addressed satisfactorily, goals and positions, information, source of power, attitude, perceptions, motivation, style
- \* **Relationships** - history, current status, trends, general assessment
- \* **Substance** - central issue, secondary issue, options available, events

Once the above questions are answered, sources of conflict must be identified. Conflicts can arise from relationship issues, data conflicts, different interests, structural differences and value differences (Figure 1). In the story about Boracay, for example, (see related article on p. 8 ) the articles in the newspapers focused only on the conflict of data relating to the water quality of Boracay. A closer look at the conflict will show that a relationship conflict developed between the Philippine Secretary of the Department of Tourism and the Secretary of the Department of Environment and Natural Resources. If this aspect of the conflict was not properly identified, finding appropriate management strategies might have been delayed.

Data conflict occurs when people lack information necessary to make wise decisions, are misinformed, disagree over what data is relevant, interpret information differently, or have different assessment procedures (Batistiana, 1996). Data conflict may be unnecessary since it is caused by poor communication between the people in conflict. Other data conflicts may be genuine because the information and/or procedures used by people to collect data are not compatible. For example, a coastal community may feel threatened by an upcoming gas pipeline project because of the risks that they think it will involve. However, the perceived risks may not necessarily be the same as the actual risks of a project. Hence, communication is essential to avoid this type of conflict.

Interest conflict is caused by competition over perceived or actual incompatible needs. Conflict of interests results when one or more parties believe that in order to satisfy his or her needs, other's interests must be sacrificed (Batistiana, 1996). User conflicts are more often than not conflict of interests. A coastal manager is usually faced with stakeholders who represent different choices on how a coastal area should be used. Should a certain area be used for navigation, fisheries, biodiversity conservation or aquaculture? In these kinds of conflicts, it is important to determine if the conflicting interest is apparent or real.

Figure 1. Sources of Conflict



Source: CDR Associates, 1994.

Different interests may not necessarily be incompatible. Navigation is not necessarily incompatible with fishery activities. Land and sea use zonation schemes are important tools to ensure that various interests in a coastal area are addressed a priori.

Relationship conflict occurs because of the presence of strong negative emotions which cloud rational judgement. Misperceptions and stereotypes often result in a conflict situation because a person may automatically attribute characteristics and traits to another which are not really there. For example, a fisherman may oppose a certain industry because he thinks that all industries pollute the coastal environment. Another source of relationship conflict is repetitive negative behavior. This problem often results in what has been called unrealistic or unnecessary conflict since it may occur even when objective conditions for a conflict, such as limited resources or mutually exclusive goals are not present (ADRP Project, 1997).

Structural conflict relates to limiting factors, external to the parties, which create difficulties that are unresolvable by the parties involved. This type of conflict includes lack of resources, time or authority. "These structural limits present obstacles and limit options available to the parties in resolving their issues and hence, often creates considerable frustration (Batistiana, 1996)".

Value conflict is caused by perceived or actual incompatible systems. Values are beliefs that people use to give meaning to their lives. Differing values need not cause conflicts. People

### Inventing Options

- **ignore it**
- **talk about it**
- **negotiate for the solutions**
- **involve a third party**
- **mediation, arbitration, etc.**
- **build a consensus decision**
- **administrative decisions**
- **litigate in court**
- **use pressure - metalegal/legal**
- **use violence**

Source: ADRP Project, 1997.

can live together in harmony, even in quite different value systems. Value disputes arise only when people attempt to force one set of values on others or lay claim to exclusive value systems which do not allow for divergent beliefs (Batistiana, 1996). For example, environmentalists may oppose the utilization of coastal resources because they deem it necessary to conserve coastal resources. At the same time, industries view the very same coastal resources as possibility for profit. The two values are not diametrically opposed. It is really a matter of looking for a common ground.

### Strategizing the Management of the Dispute

Once a conflict is recognized, parties will have several options on how to address it. Options can range from ignoring the problem or going into a violent alternative such as war. Parties may also resort to formal processes such as litigation or informal processes, such as facilitation, consensus building, fact finding, mediation and negotiation.

There are no two conflicts exactly alike. Hence, it is important to identify what dispute resolution process is appropriate to the case (See Table 1). The culture of a given coastal area can also play a key role in identifying the

**Table 1. Table of Third Party Interventions**

Source of Conflict	Suggested Response
<b>Data Conflict</b>	<ul style="list-style-type: none"> <li>• Assist the parties in defining protocols for joint fact finding</li> </ul>
<b>Value Difference</b>	<ul style="list-style-type: none"> <li>• Help the disputants educate each other about their values.</li> <li>• Help them to agree to disagree.</li> <li>• Find and focus on common values.</li> </ul>
<b>Relationship Problem</b>	<ul style="list-style-type: none"> <li>• Listen!</li> <li>• Help the parties help each other.</li> <li>• Help establish a positive human connection between the parties.</li> <li>• Get the parties to communicate constructively.</li> <li>• Treat all parties with respect.</li> </ul>
<b>Structural Problems</b>	<ul style="list-style-type: none"> <li>• Identify them.</li> <li>• Don't blame people for them.</li> <li>• Try to overcome them.</li> <li>• Accept them.</li> </ul>
<b>Conflict in Interests</b>	<ul style="list-style-type: none"> <li>• Engage in a principled negotiation or interest-based mediation process.</li> <li>• If the negotiation fails show the parties the alternative if a Negotiated Agreement is not reached.</li> </ul>

Source: CDR Associates cited in Batistiana, 1996.

---

appropriate process. Cultures which emphasize harmony and balance will likely prefer consensus-building approaches to litigation. For example, the replication in Thailand of the process undertaken by the Provincial Government of British Columbia to manage the dispute in relation to salmon farming may not necessarily lead to the same result (see articles in pages 28 and 15, respectively). The parties may respond to the process differently because of the difference in culture and political processes.

### Process Options

Consensus building mechanisms, which are voluntary processes wherein participants seek a mutually acceptable resolution of their differences, are often efficient and effective methods for the settlement disputes (Bingham, 1999). These may range from mere information exchanges, e.g. public hearings, consensus-seeking dialogues, e.g. roundtable discussion, formal and informal policy dialogues, to assisted negotiations, e.g. negotiated rule making, problem solving workshops, early neutral evaluation, partnering, mediation, binding or non-binding fact finding.

Negotiation refers to two or more people voluntarily discussing their differences and attempting to reach a joint decision on their common concerns. For a negotiation to take off, the issue must be identified and the parties ready to negotiate. Furthermore, the parties should have the authority to decide and are interdependent. It is not the number of parties that is important. What is more important is that the parties who are present must have the authority to implement the decision. Another factor important to the success of a negotiation process is the incentive to negotiate the agreement. Incentives must be identified so as to encourage parties to deal with differences. The willingness to settle must be high. There must be a sense of urgency and no major psychological barriers must exist. Issues must be focused on the interests of the parties rather than positions.

A process which allows parties to communicate and which can address issues of substance, process and relationships are important to an effective consensus-building process. All sides must be allowed to express their views, preferably to one another. However, it must be noted that in instances where the conflict is heated, communication should not be directed to each other because this sometimes results in polarization of the parties.

The coastal manager can provide third party assistance to the parties. He or she can perform the role of a mediator or facilitator. Table 2 describes some of the essential tasks that a mediator should undertake. The success of the mediation process in Boracay and Bolinao, Philippines (see articles on pages 8, 22) may be attributed to preparation. The mediation process closely followed the guide provided in Table 2.

---

## Benefits of Consensus-Building Approaches

- *economic efficiency*
- *rapid settlements*
- *mutually satisfactory outcomes*
- *comprehensive solutions*
- *people are empowered*
- *relationship is often preserved*
- *economic efficiency*
- *rapid settlements*
- *mutually satisfactory outcomes*
- *comprehensive solutions*
- *people are empowered*
- *relationship is often preserved*

---

## Integrated Coastal Management as a Tool to Resolve Coastal Disputes

Literature on appropriate dispute resolution often provide models for resolution of conflicts that are in the patent stage. There have been discussions on preventive mechanisms to coastal disputes. The model for integrated coastal management offers inherent mechanisms and characteristics, which allow for preventive conflict management.

An ICM program must have three elements to manage conflicts effectively:

- efforts to understand the roots, causes and consequences of coastal and marine conflicts;
- an established and transparent process for making decisions about the conflicts; and
- the capability to adopt and implement measures to remedy injuries or damage to particular coastal and ocean users arising from coastal development or from the actions of other coastal and ocean users (Cisin-Sain and Knecht, 1998).

Coordination is a key element of integrated coastal management. The inter-sectoral co-ordinating committees provide a venue for conflicts to be discussed and resolved. Integrated land and sea use zonation schemes are also effective tools to manage use conflicts. Multisectoral monitoring of coastal areas also helps to avoid conflicting data on environmental quality.

**Table 2. Tasks of the Mediator**

<b>Pre-negotiation</b>	
<b>Getting Started</b>	Meeting with potential stakeholders to assess their interests and describe the consensus-building process; handling logistics and convening initial meetings; assist groups in identifying their best alternatives to a negotiated agreement (BATNA)
<b>Establishing representation</b>	Caucusing with stakeholders to help choose spokespeople or team leaders; working with initial stakeholders to identify missing groups or strategies for representing diffused interests
<b>Drafting protocols</b>	Preparing draft protocols based on past experience and the concerns of the parties; managing the process of agenda setting
<b>Engaging in joint fact finding</b>	Helping draft fact-finding protocols; identifying technical consultants or advisors to the group
<b>Negotiation</b>	
<b>Inventing options</b>	Managing the brainstorming process; suggesting potential options for the group to consider; coordinating subcommittees to draft options
<b>Packaging</b>	Caucusing privately with each group to identify and test possible traders; suggesting possible packages for the group to consider
<b>Written agreement</b>	Working with a subcommittee to produce a draft agreement managing a single-text procedure; preparing a preliminary draft of a single text
<b>Binding the parties</b>	Serving as the holder of the bond; approaching outsiders on behalf of the group; helping to invent new ways to bind parties to their commitments
<b>Ratification</b>	Helping the participants “sell” the agreement to their constituents; ensuring that all representatives have been in touch with their constituencies
<b>Implementation or Post Negotiation</b>	
<b>Linking informal agreements and formal decision making</b>	Working with the parties to invent linkages; identifying legal constraints on implementation
<b>Monitoring</b>	Serving as the monitor of implementation; convening a monitoring group
<b>Renegotiation</b>	Reassembling the participants if subsequent disagreements emerge

Source: Susskind and Cruikshank, 1987 cited in Cisin-Sain and Knecht, 1998

**Ingrid Rosalie L. Gorre\***

\* The author is the Technical Officer for Community Network of PEMSEA.

## REFERENCES

- Appropriate Dispute Resolution Processes (ADRP) Project. 1997.** Manual on the use of ADRP in environment and natural resources. Philippine Department of Environment and Natural Resources, Tanggol-Kalikasan-Haribon Foundation, and the Asia Foundation, Quezon City, Philippines (unpublished).
- Batistiana, B. S. 1996.** A training manual on conflict management. CO-TRAIN, Quezon City, Philippines.
- Cisin-Sain, B. and R. W. Knecht. 1998.** Integrated coastal and ocean management: Concepts and practices. Washington D.C., Island Press. 517p.
- Bingham, Gail. 1999.** What is consensus-building and why is it important for resource management? <<http://www.resolv.org/Resources/Whatis.htm>> date last updated 21 April 1999, date accessed 16 July 1999.
- CDR Associates. 1994.** A manual on the mediation process. Colorado, USA.

# BORACAY: A Case Study on the Use of Conflict Management to Catalyse Collaboration in Coastal Management



*In June 1997, Boracay Island was in the eye of a raging controversy pertaining to findings of coliform contamination. The issue threatened the thriving tourism industry in the area, which was a major dollar earner for the Philippines. The controversy also put in question the ability of the Philippine Department of Environment and Natural Resources (DENR) in enforcing environmental laws. One month after the explosion of the issue, the DENR managed to wane the controversy by bringing all the stakeholders to the negotiation table to discuss and act upon the pertinent issues and concerns. This article, based mostly on a first-hand account by the author, seeks to explain and identify the circumstances and factors that made conflict management an effective catalyst for the collaboration of the concerned stakeholders of Boracay in responding to the alarming environmental situation.*

## The Paradise Island that is Boracay

Located in the province of Aklan, off the Sibuyan Sea, measuring only about 1,038.82 hectares and composed of three baranggays: Yapak in the north, Balabag in the middle and Manoc-Manoc in the south, is the island of Boracay.

Despite its relatively small area, Boracay has been voted no less than by the world's bible in tourism, the Conde Nast "Travel Magazine", as the best beach in the world<sup>1</sup> for its warm and shallow crystal blue waters, powder-fine, milky white sand, and a spectacular four-kilometer long beach lined with palms. Nearby, small islands offer a view of colorful corals for divers and a wide array of aquatic fishes.

Indeed, the major source of beauty of Boracay as a paradise island is its delicate fragile ecosystem. The island is believed to have been an ancient reef platform that emerged from the Sibuyan Sea some 500,000 years ago. Its physical topography has been shaped by the combined effect of weathering and erosion over the centuries. Its coralline rock layers are highly permeable and porous, making the island's groundwater vulnerable to pollution. The famous powdery white sand, according to scientists, came from corals washed away and grounded by waves and currents until they became very fine. According to folk belief of the residents however, Boracay's white sand is believed to be caused by the green algae found in the shorelines, particularly during peak season.

Today, Boracay is able to successfully lure an average of 200,000 foreign tourists a year, that translates into 3,000 direct jobs and Php 2.1 billion government revenues.

## Paradise Lost? The Beginnings of the Controversy

In the afternoon of June 30, 1997, a reporter of *The Sunday Chronicle* asked the DENR Secretary the fateful question "with resorts springing up uncontrollably in Boracay and its accompanying pollution problems, what will be the intervention of the DENR?" The DENR Secretary initially referred to a tourism master plan which was under the responsibility of the Department of Tourism (DOT).<sup>2</sup> Without malice, he added the statement that "Boracay is a disaster case". It was this one liner that subsequently led to fiery exchanges in the newspapers

<sup>1</sup> Boracay Travel Information, <<http://www.aisatravel.com/manila/boracain.html>>

<sup>2</sup> As early as February, 1987, a 92-page report entitled "Adaptive Strategies in Environmental Protection" was submitted to the Philippine Tourism Authority (PTA) to serve as guidelines for the planning and management of tourism-related environmental protection program for eco-tourism sites with fragile ecosystems like Boracay Island. This report already identified critical areas, tourism site planning guidelines, coastal zone management, groundwater investigation, sewerage treatment, visitor control and security maintenance. Two years later, technical experts formulated the Boracay Island Master Development Plan (BIMDP) which fleshed out the details set in the Report, which among others set a height requirement for all buildings and structures to be constructed in the area: only one-storey high or not more than five (5) meters in height, and be made of native materials such as bamboo to depict a genuinely rustic environment. xxx Nor should there be structures 30 meters from the highest point of tide. When Boracay was proclaimed as a marine and tourist zone, administration over the island was transferred to the Philippine Tourism Authority. The environmental clearance certificate (ECC) under PD 1586 was issued to the PTA providing for 21 conditionalities, one of which was the compliance with the BIDMP.



---

between DENR and DOT and a subsequent DENR declaration that “Boracay is not fit for swimming, bathing and other water-based activities.” The next three days after the publication of the statement, the newspapers eagerly covered the clashing statements between the two government agencies, with the DENR standing firm on its findings. The DOT, on the other hand, did everything it could to discredit the accuracy and validity of the DENR findings. The DOT Secretary even went as far as wading in the coastal waters of Boracay to prove that it is safe for swimming.

## **The Different Sources of the Conflict**

The source of conflict in the Boracay controversy emerged from many occurrences and facts which are closely connected and interwoven with each other. Each fact should not be taken in isolation of the others.

### **Data Conflict: Different Strokes for Different Folks**

The primary source of conflict was the Water Quality Monitoring Report for Boracay Island submitted by the DENR Regional Office. This report was conducted between October to December 1996 in ten (10) sampling stations and showed that the samples were in excess of the DENR standards for total and fecal coliform levels for waters used for recreational/bathing purposes.<sup>3</sup> Based on this report, the DENR Secretary declared that the coastal waters of Boracay were not fit for swimming.

The DOT questioned the accuracy and conclusiveness of the DENR findings and hired the services of a consultancy firm to gather samples and prove that the waters of Boracay were within the DENR standards. A doctor from Makati Medical Center, alleged to be an expert on coliform organisms, further challenged the issued information as to the nature and adverse effect of coliform bacteria, which, according to DENR, caused cholera, typhoid, hepatitis and skin diseases. On the part of the Boracay residents, they also contested the DENR findings relying on the more simple and pragmatic test of taking a look and a dip at the seemingly clear and pristine coastal waters of Boracay to repudiate the DENR findings. The DOT demanded a retraction of the declaration so that tourists will not be driven away.

The DENR stood firm on the report and findings. Retraction of the statement was not an option because DENR Administrative Order 34, series of 1990 required that a declaration of total and fecal coliform count should be based on the geometric mean of the most probable number of coliform organism during a 3-month period. The DENR conceded, however, that the period of water sampling was undertaken

---

<sup>3</sup> DENR standards for total and fecal coliform for recreational/bathing purposes are 1,000 and 100 most probable number (MPN) per millimeter, respectively.

only during the heaviest concentration of tourists in the island, making the results of the report inconclusive. In order to have a holistic picture of the situation, sampling should have been undertaken in both the peak season and the low season.

### **Relationship Conflict: Breach of Inter-Cabinet Protocol**

Incidental to the data conflict, a conflict relationship developed between the Secretaries of the DENR and the DOT and was made known all over the papers. The DOT Secretary felt slighted that there was no prior consultation on the report of the DENR Regional Office before it was published in the papers. As members of the Cabinet, she expected that such a highly significant and confidential matter should have been initially discussed and resolved at their level before being made public. It had taken the country twenty years to promote Boracay as the number one tourist destination in the country, and any negative publicity on Boracay would throw away all the efforts of the tourism industry.

The DENR contended that the DOT Secretary was furnished copies of the report and was informed of the findings as early as December 1996 but she did not take any action on the matter. Moreover, the DENR Secretary alleged that it was not his intention to make public his assessment of Boracay.

The conflict was prevented from escalating by the timely intervention of the President of the Philippines, who, on the fourth day of the controversy issued a Memorandum creating a Joint Presidential Task Force on Boracay that directed the DENR and the DOT to closely coordinate with each other to ensure the sustainable development of Boracay. Accordingly, a formal agreement was made between the two agencies whereby all statements, plans, policies and actions concerning and related to Boracay, particularly those to be released to the media were to be closely coordinated with each other and would be adopted only upon approval of the respective Heads of the Department.

On his part, the DENR Secretary constituted an intra-agency Ad Hoc Committee on Boracay, appointing as Chairperson the Undersecretary for Legal, with the Undersecretary for Environment as Co-Chair to represent the DENR in the Task Force.

### **Institutional Conflict: To Retract or Not to Retract**

The DOT, the local government officials of Boracay and the Boracay resort/establishment operators wanted the DENR declaration of Boracay to be recanted before they discussed measures to address the problem. As far as this group was concerned, the image of Boracay had to be immediately cleared

---

despite the reality of the alarming environmental conditions. For the DENR, this was not acceptable because the Department would not only lose credibility as an enforcer of environmental laws but it would also ignore the need for such concerns to be addressed and further aggravate the ailing environmental state of Boracay.

### **Structural Conflict: Violations of Environmental Laws**

Under Philippine law, each establishment or project proponent is required to secure an Environmental Compliance Certificate (ECC). In this case, Programmatic Environmental Impact Assessment was applied and a mother ECC was issued to the Department of Tourism containing 21 conditionalities. As early as 1992, the DENR issued a Notice of Violations (NOV) to DOT for violating the conditionalities of the ECC. Another one was issued in 1994.

It was only when the environmental problems of Boracay came to the limelight, that the issue on the violations of the ECC and of other environmental laws, rules and regulations by the DOT and by the resort/establishment owners came to the fore. This was an expected and inevitable consequence since such continuing and blatant violation of the EIA law was now under public scrutiny. It was this violation of the EIA law that was the root of Boracay's environmental troubles because if each resort/establishment secured an ECC before constructing, then appropriate mitigation and adaptive measures could have been taken to protect the environment.

On this point, the DOT agreed that there should be full implementation of the law.

The names of establishments without an ECC were published in the papers. The resort/establishment owners, felt this was for them the height of oppression. Not only did the DENR issue a statement that threatened their business financially, adding insult to injury, DENR wanted to penalize them for a legal requirement they were not aware of. The resort owners claimed that when they asked DOT whether they needed an ECC, DOT assured them the DOT ECC covered their establishments. While it is easy for regulatory agencies to retort back with the fundamental provision of the law that "Ignorance of the law excuses no one from compliance therewith" and the maxim of *dura lex sed lex* (the law may be harsh but that is the law), the question of equity still hovered near. The DOT denied that such an assurance was made. This made the people all the more angry and bitter.

The violations of the EIA law became the most emotional issue igniting hostility from the community. This was their situation. Not only was the community threatened by the loss

of its main source of income, it was further depicted as an irresponsible community that shamelessly destroyed the pristine beauty of Boracay and transformed the island into "one big septic tank". Further, the establishments would be penalized/fined for their omission to secure an ECC, which they had not the slightest idea of what it was all about.

On June 11, 1997, a team headed by the DENR Undersecretary for Legal went to Boracay to serve the 208 NOVs to the concerned establishments. The team was composed of six lawyers from Legal Service, two lawyers from the Office of the Undersecretary for Field Operations and one representative from the Office of the Undersecretary for Environment and Program Development.

### **The Conflict Management Process**

Given the context by which the NOVs were to be served in Boracay, the challenge was not really the service of the NOVs but more on how the controversy was to be directly handled. This was the first time that all the stakeholders were to meet face-to-face.

Upon arriving from the airport, the DENR Undersecretary briefed the DENR team that the purpose of the mission was to serve the NOVs to all the establishments in the best manner possible. They agreed that the DENR Undersecretary was the spokesperson of the team and that no one should intervene or comment during the discussion because he would allow people to say everything they want to say to him and to DENR. It was important that the people first release all their emotions on the issue before any discussions were to take place.

A big angry crowd showed up for the meeting. The DENR team led by the Undersecretary listened to all the issues and concerns, as well as the emotional tirade. Even the DOT Director made statements that put the entire blame on the DENR. Such non-constructive comments were largely ignored and the answers were always those that moved the discussions forward. The DENR Undersecretary offered sincere apologies for what the people went through, successfully evading any reference on the propriety and validity of the Secretary's statement. The DENR Undersecretary answered with sincerity and remained unperturbed.

DENR made a conscious and deliberate choice and effort to make the people join together in developing creative solutions to the problem at hand.

During the break, the Undersecretary called for a caucus with the DENR team, asking for feedback. This was important to assess the gains of the consensus-building session. The

---

next item on the agenda was to provide a briefing on the EIA laws. After the EIA lecture, the DENR team found that most of the resort/establishment operators, although willing and earnest to secure an ECC, were not willing to pay fines. As a matter of principle, regardless of the amount, a fine is still a fine. It is deemed an admission of guilt. Moreover, the people kept on invoking their legal rights as provided under the Master Plan and the ECC issued to the DOT, thus challenging the authority of the DENR to issue the NOV's.

Subsequent to the EIA lecture, the DENR team held another caucus discussion. The team was worried that if this issue on the validity of the NOV's was not addressed, the DENR would always be the convenient scapegoat for all the mess in Boracay, making it impossible to move forward. At this point, the DENR team felt that it was time for the Undersecretary to mediate with muscle. It was time for him to be tough with the issue and apply the full force of the law and to tell the people that they were actually in violation of environmental laws. The Tourism Master Plan and the conditions of the ECC granted pursuant to the said Plan were clear and did not exonerate them from any liability. However, the Undersecretary was worried about sanctioning the community and requiring them to pay the fines. After a long discussion, the DENR team decided that the violation of the locals should be treated as a mistaken interpretation of a difficult question of the law, which under Philippine jurisprudence can be considered as a mistake fact and legally excusable. This case is a grey area in terms of application and harmonization of the laws, rules and regulations. The position recognized the good faith of some locals who really believed that they were in compliance with the law and their sincerity to comply under the present circumstances. The position was ratified by the Secretary. The DENR team informed the locals present in the meeting about the decision.

Hence, the locals received the NOV's issued in their names and in consideration of their good faith and of the doctrine on mistake of interpretation of a difficult question of law, they were not held liable for any penalties or fine under the law. Everybody found the new turn of events mutually satisfactory and the resort owners lined up to get their NOV's. Even the most vocal oppositionist was happy with the result and allegedly even gave a "thank you kiss" the next day.<sup>4</sup>

## Lessons Learned

The following are the lessons learned from the foregoing process of conflict management which are seemingly simple and commonsensical yet teeming with significance:

- 1) Learn when to change strategies. One should know when to be soft in dealing with the parties, the issues and the process and when not to, or be both in any given phase of the process. In situations where the people are angry and hostile, it may be best to just keep quiet, listen and observe everything so that all these relevant information will serve as guide in dealing with the circumstance. In this particular case, when the DENR Team listened to the emotional attacks of the locals of Boracay, two very important things were achieved: first, DENR determined their sentiments, values, knowledge and prejudices in their real, naked albeit hurtful form and second, the release of all those intense emotions helped in preparing them to face the issues rationally. It must be stressed that when it becomes apparent that someone is already trying to manipulate the process, or is not helping in making the process work, then one should immediately shift strategies and use some "muscle" to protect the process and its outcome.
- 2) Commitment. It is in commitment to the parties, issues and process that transforms even the most hostile and uncooperative parties into key players in the process and the outcome. One could never go wrong if one is committed to the goal of achieving a just and equitable solution to a problem based on a participatory and liberating process.
- 3) Caucus, caucus, caucus, caucus .... The rule is, be liberal with the conduct of caucuses. Nothing is lost if there are frequent caucuses but something will be greatly sacrificed if no caucus is conducted at the proper time. It is in a caucus that one can get feedbacks on the direction, the gains and losses made in the process. A caucus with co-mediators or process observers can help correct some previous directions taken and at the same time, get some fresh ideas and suggestions on how to make the mediation process successful and more importantly, allow the mediator to regain its bearing.
- 4) Reformulate "toxic" statements. All those offensive and harsh statements should be screened by the facilitator and should not be repeated. One should ignore and set aside toxic utterances to allow the process to move forward without making the speaker feel that he/she was not listened to or what he/she said was "wrong" or unimportant. It is only perhaps when such toxic statements undermine the process or the effectivity of the facilitator that such statements should be addressed.

---

<sup>4</sup> After the fateful meeting in Boracay, the DENR sent a team of technical experts to help the locals comply with the EIA law within the earliest possible time. For those who refused to comply, the DENR imposed the appropriate fines and penalties for violation of the EIA law.

## Conflict Analysis of the Boracay Controversy

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)					
Party	Interests and Issues	Position	Power and Influence	Willingness	Options
<b>DENR</b>	Fulfill the mandate of the law to protect the environment and ensure compliance with environmental laws, particularly on EIA, pollution control and solid waste management.	Protect the environment of Boracay Island.	As the government agency with the primary authority and jurisdiction on environmental concerns, the DENR has all the power and influence on this matter, especially since there are people in the media and of the general public who rally behind the cause of the environment and of the DENR's actions to respond to the problem .		<ul style="list-style-type: none"> <li>• Enforce the law and impose the fine of P50,000.00 per day of violation to each resort/ establishment owners. This option, however, was not acceptable to the Boracay community, the local officials and other sympathetic groups. This would also create undue negative publicity and hostility that would hinder future co-operation on environmental protection.</li> <li>• Condone the ECC violation of the resort/ establishment operators and move forward with environmental plans and programs. Such an option would gain the goodwill of the Boracay community and the local government officials. The consequence of this option, however, is that it will set a bad precedent in the regulation of the EIA system. It was the first time that the DENR would condone a violation under the EIA law. This would open floodgates to future abuse, rendering the regulation of the EIA law purely whimsical and discretionary.</li> </ul>
<b>DENR Secretary</b>	The Secretary wanted to stand firm on his statement since he had the reports and water sample analysis to back him up. To backtrack from his statement would not only result in a loss of face but had serious and negative political implications. However, he knew that he had to do something because the President was not happy that two members of his Cabinet were engaged in a media word war.	No retraction of the statement. Accordingly, relevant environmental laws, and regulations should be implemented.	As the head of the agency, he had the power and influence on the issue. Such power and influence was restrained because of the pressure from the President that the issue be resolved to accommodate DOT interests. Furthermore, he had entrusted the entire process in arriving at an acceptable solution to the Undersecretary for Legal.	Open to settlement as long as there would be no retraction of his previous statement.	
<b>DENR Under-secretary For Legal</b>	Understanding the situation of the resort/establishment owners, his interest was to arrive at a win-win solution that would address all the interests of the various stakeholders, without compromising the stand of the Department and the Secretary.	Adopted the position of DENR and the Secretary but also wanted to extend compassion to the establishment/ resort owners of Boracay.	As Chairperson of the Task Force on Boracay he had the direct authority and influence to decide on all the issues related to the case and in arriving at an acceptable solution, provided the Secretary approved of it.	Willing to arrive at a win-win solution.	
<b>DENR Under-secretary for Environment</b>	As the acting Undersecretary who approved the ECC of the Tourism Master Plan for Boracay, he was directly involved in the controversy and thus, had to inhibit himself in the early stages of the case. His interest was to ensure the strict compliance and full implementation of the laws, rules and regulations, no matter how harsh they may be.	Full and strict implementation of the EIA law against the resort/ establishment owners for their failure to secure the necessary ECC.	Although influential to the decisions of the Secretary, being one of his trusted advisers, and as Co-Chairperson of the DENR Task Force on Boracay, his powers were stifled because he was the Undersecretary who issued the ECC to the DOT. He cannot have any direct and active participation on the current state of affairs in Boracay, being previously involved and prejudiced by such past actions.	Willing to settle some issues but not on the ECC violations of the establishments/ resort owners.	

## Conflict Analysis of the Boracay Controversy

DEPARTMENT OF TOURISM (DOT)					
Party	Interests and Issues	Position	Power and Influence	Willingness	Options
<b>DOT</b>	The DOT has a clear mandate under the law over tourist zones. Boracay was established as a tourist zone under PD 1801. Pursuant to its mandate, DOT developed a Tourism Master Plan for the Boracay Island. DENR issued an ECC to DOT for the Master Plan.				<ul style="list-style-type: none"> <li>• Retraction of the statement of the DENR Secretary. At the same time, resort/establishment operators be sanctioned for their violation of the EIA law. This would have resolved the relationship conflict between the DOT Secretary and the DENR Secretary as this would grant the principal desire of the DOT Secretary. This was not an option because this will be a high-profile negative political move that would have serious implications and consequences.</li> <li>• Let the issue and the public's interest die down before the case was dealt with. The advantage of this option was that it will evade public and media scrutiny. Hence, crucial decisions on the matter would not be unduly influenced by public pressure and opinion. Furthermore, consequences of any action would neither be unduly magnified. This would ensure a more rational way of dealing with the issues. The negative side of this option was that it would evoke public outrage for not immediately responding to the issue. Moreover, the state of health and the environment would continue to worsen if the issue was not acted upon.</li> </ul>
<b>DOT Secretary</b>	Boracay is the prime tourist attraction of the Philippines. For the DOT Secretary, a declaration from DENR that Boracay is unsafe for swimming would kill the Philippine tourism industry. Her interest was to protect the tourism industry.	Retract the statement and declare the waters of Boracay safe for swimming.	As one of the members of Cabinet who enjoyed the full confidence of the President, she was very influential in the outcome of the process.	Willing to settle as long as DOT would be assured that tourists would not be scared to go to Boracay.	
<b>DOT Regional Director</b>	Being the tourism official directly in charge with the affairs of Boracay at the time of the controversy, he wanted no blame to be put on him nor any accusation of neglecting Boracay.	Free the DOT from any liability or accountability arising from the controversy.	His power and influence was necessarily attached to the DOT Secretary.	Would settle under the DOT Secretary's instructions.	

LOCAL GOVERNMENT					
Party	Interests and Issues	Position	Power and Influence	Willingness	Options
<b>Governor</b>	Boracay is a major contributor to the revenue of the province in the form of taxes. He wanted to be on the good side of the establishment/resort owners because he was seeking re-election.	Intervene for the benefit of the resort/ establishment owners.	Influential and powerful with respect to the Boracay community, the local officials of DENR and DOT being the Chairman of the Boracay Task Force per directive of the President on July 4, 1997.	Willing to settle in order to promote the interests of the Boracay residents and investors.	
<b>Mayor of Boracay</b>	Owner of a resort in Boracay. His obvious interest was to protect his establishment from any sanctions and/or fines from the government.	Secure his business.	The Vice-Chairman of the Boracay Task Force but since it was really the Governor that was calling all the shots, his power was illusory and only in paper. He had some influence on the locals.	Willing to settle as long as his resort would not be unduly affected.	

BORACAY RESORT OWNERS					
Party	Interests and Issues	Position	Power and Influence	Willingness	Options
<b>Boracay Foundation</b>	Composed of big resorts/ establishments in the island. Their interest was to protect their investments.	Not be fined/ sanctioned for something they did not know they had to comply with. They wanted to ensure that tourists would not be scared.	Powerful and influential being the proprietors of Boracay's big establishments/ resort. Another source of power was media sympathy and the general public because of the impending loss of livelihood brought about by the DENR statement. In reality however, the members of the Foundation would just be losing profits but not really their main source of livelihood, as these were big time businessmen who had other businesses.	Willing to settle.	
<b>Owner of a large resort under construction</b>	His interest was to secure his establishment as it was going to be one of the largest establishments in Boracay. His resort was still under construction.	Same as Boracay Foundation	Politically influential being a former Undersecretary of the Department of Agriculture. He is also a fraternity brother of a DENR Undersecretary and works for an international organization.	Willing to settle.	
<b>Old-timer from Boracay</b>	She is one of the old-timers of the island. As a resident of the island who also had small cottages for rent, she was concerned with the small businesses in the island and in the Boracay community as a whole.	Same as Boracay Foundation. In addition, she recognized that the problems of the island should be immediately addressed.	Influential as a respected member of the community, being a public school teacher and long-time resident. She also had public and media sympathy brought by her impending loss of livelihood.	Not willing to settle to protest their victimization by the mismanagement of Boracay island by DOT and DENR. She felt that it was the government's turn to give in to their demands.	

### Return to Eden: The Gains of the Dispute Resolution Process

The water quality issue in Boracay was addressed in greater detail by the Inter-agency Committee on Public Health, chaired by the Department of Health.

On July 10, 1997, the Inter-agency Committee on Public Health organized a meeting to discuss the Boracay issue. It was agreed that water sampling be jointly conducted by the different member agencies. The result of the process became a success not only of procedures but also in gathering together all the concerned stakeholders of the island and making them cooperate with the efforts in preserving Boracay. As to the other incidental conflicts, these were also resolved, i.e., the issue on the validity of the data and its retraction was just forgotten in time.

DENR Administrative Order No. 34, series of 1990 was eventually amended to change the requirement of a 3-month water sampling into 5 consecutive samplings to change,

modify or revoke the results of the previous samplings. Hence, in respect to the quality of the coastal waters of Boracay, after five consecutive samplings, the coastal waters of Boracay was conclusively declared safe for swimming, bathing and other water-related activities.

This controversy also paved the way for the DENR and the DOT to work closely together in handling other coastal tourism areas. A few months after the controversy, a working group composed of DENR and DOT representatives began to take a more pro-active approach on coastal tourism areas in the Philippines by conducting seminars on environmental laws and monitoring the compliance therewith. Special priority was given to Panglao Island, which is another major tourist attraction in Bohol, Philippines.

**Florisa C. Almodiel\***

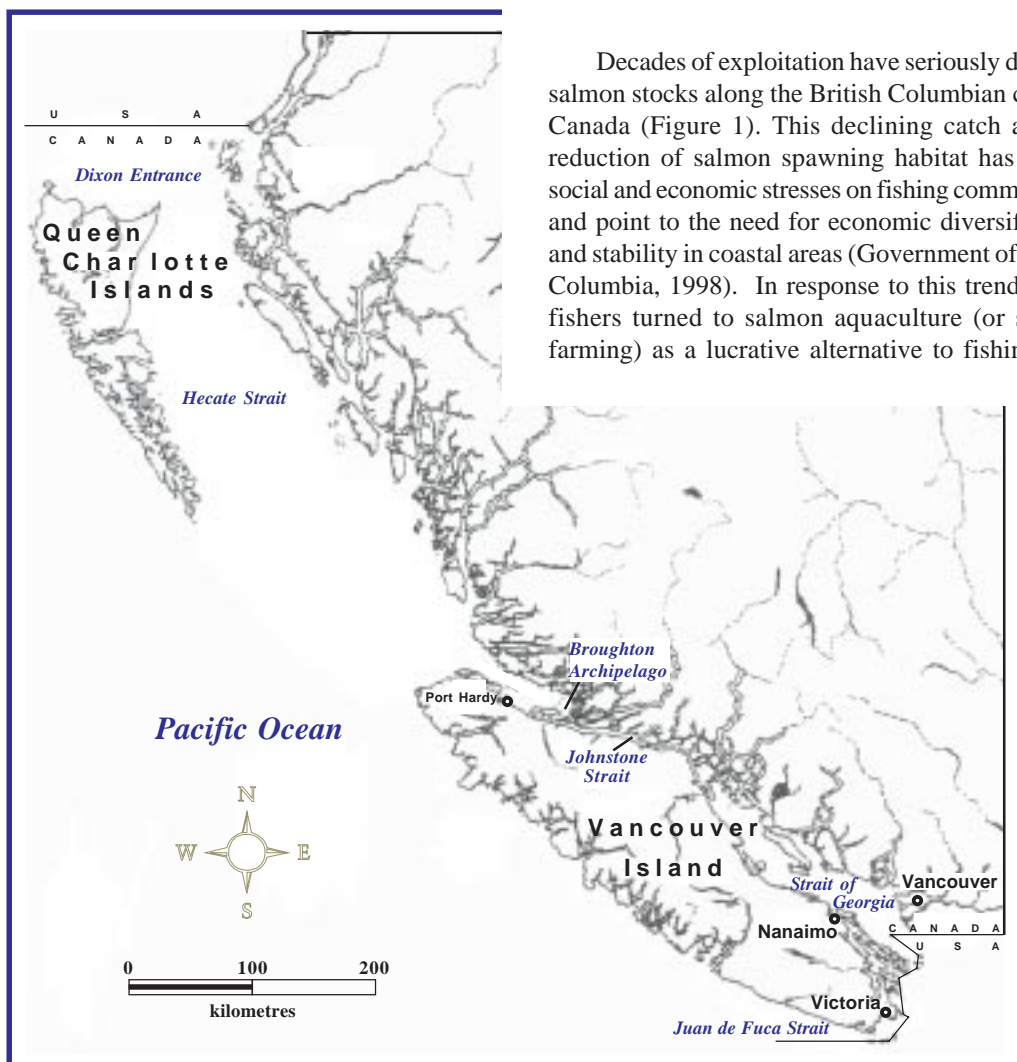
\*The author is a lawyer from the DENR who was part of the Boracay team of DENR.

# Resolving Salmon Aquaculture Regulatory and Management Disputes in British Columbia



As many countries consider the ocean resources to be part of the public domain, management of these resources has to be based on a conservationist ethic and resolution of multiple-use conflicts on fairness and equity. In practice, this is challenging and requires a systematic, analytical framework within which governments and other stakeholders can formulate appropriate strategies and actions.

UNDP– GEF Project Document: Building Partnerships for Environmental Protection and Management of the East Asian Seas, 1999.



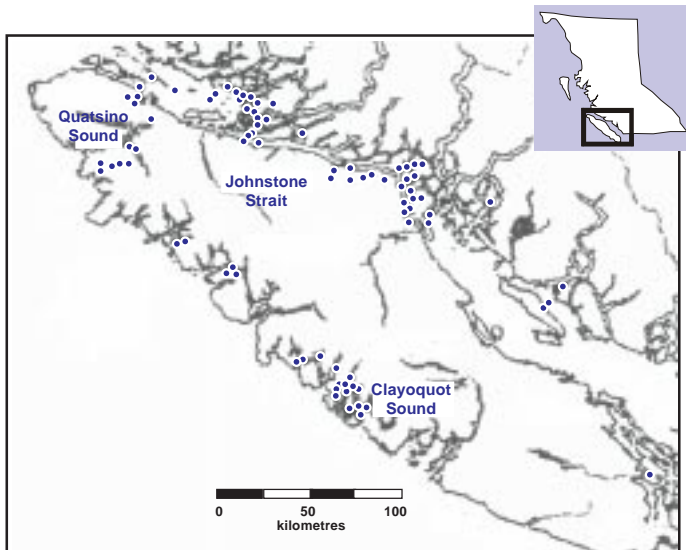
Source: Government of British Columbia, 1998

Figure 1. The British Columbia Coastal Zone

Decades of exploitation have seriously depleted salmon stocks along the British Columbian coast in Canada (Figure 1). This declining catch and the reduction of salmon spawning habitat has placed social and economic stresses on fishing communities, and point to the need for economic diversification and stability in coastal areas (Government of British Columbia, 1998). In response to this trend, many fishers turned to salmon aquaculture (or salmon farming) as a lucrative alternative to fishing wild

salmon. The result was a rapid growth of salmon farm development along the inland coastal waters of British Columbia (BC) during the 1980s and early 1990s (Figure 2).

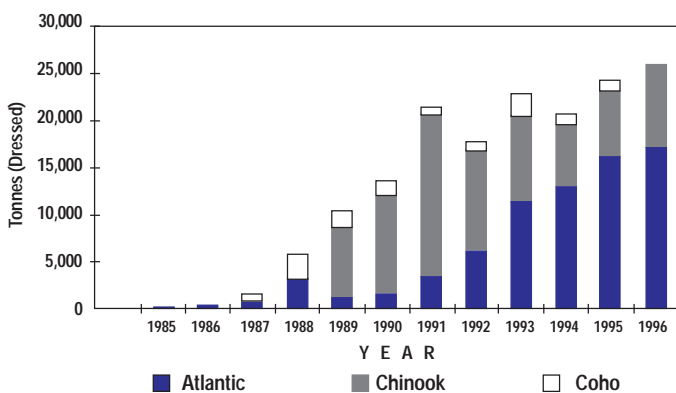
**Figure 2: Location of Salmon Farms in British Columbia (1995).**



Source: Environmental Assessment Office, 1997b.

BC's salmon aquaculture industry has illustrated the potential to compete globally. In 1996, production of BC farmed salmon exceeded 25,000 tonnes (Figure 3). As of 1997, the industry generated an estimated 2,600 person-years of employment (direct and indirect) and in 1996 generated approximately CDN \$4 million in government revenues (Marvin Shaffer & Associates Ltd., 1997).<sup>1</sup> Many coastal communities, displaced fishers and politicians believed that the salmon aquaculture industry could help mitigate the socioeconomic impacts of an ailing wild salmon fishery (Marvin Shaffer & Associates Ltd., 1997).

**Figure 3: BC Farmed Salmon Production, 1986-1996.**



Source: Environmental Assessment Office, 1997b.

<sup>1</sup> Over half of this revenue was corporate income tax; the balance was property and capital taxes, business license fees, sales taxes and permit and other fees (Marvin Shaffer & Associates Ltd., 1997).

## An Emerging Environmental Concern

The expansion of the salmon aquaculture industry in the 1980s raised certain environmental concerns. The industry grew rapidly in unsuitable locations, resulting in significant economic losses for the salmon aquaculture industry and adverse environmental impacts (TAT, 1997). The problem was aggravated by increasing tensions among government agencies and the ineffective implementation of existing policies, procedures and guidelines for managing the industry. The above combination undermined the development of efficient and effective management systems and resulted in a substantial level of public distrust (particularly by the First Nations<sup>2</sup> of coastal BC) toward the salmon aquaculture industry and the agencies responsible for regulating the industry (TAT, 1997).

Various coastal stakeholders, First Nations, environmental non-government organizations (ENGOs), scientists and government agencies voiced concern over the regulation and management of salmon farming with respect to five key issues:

- impacts of escaped farm salmon on wild stocks,
- disease in wild and farmed fish,
- environmental impacts of waste discharged from farms,
- impacts of farms on coastal mammals and other species, and
- siting of salmon farms.

The salmon aquaculture industry competes with other coastal users. The extensive coastal-marine area of BC supports commercial and sport fisheries, eco-tourism businesses, provides a home and recreation for hundreds of thousands of people, and is the foundation of First Nation culture. The prospect that salmon farming could impact the coastal-marine ecosystem, which so many humans and non-humans rely on, created turbulence among these competing interests.

<sup>2</sup> "First Nations" is the term used to describe the aboriginal peoples in Canada. The rights of aboriginal peoples in their traditional territories, together with their close traditional relationship with the coastal-marine environment, generated strong concern regarding activities that might affect the economy, culture and traditions of the First Nations (EAO, 1997a).



---

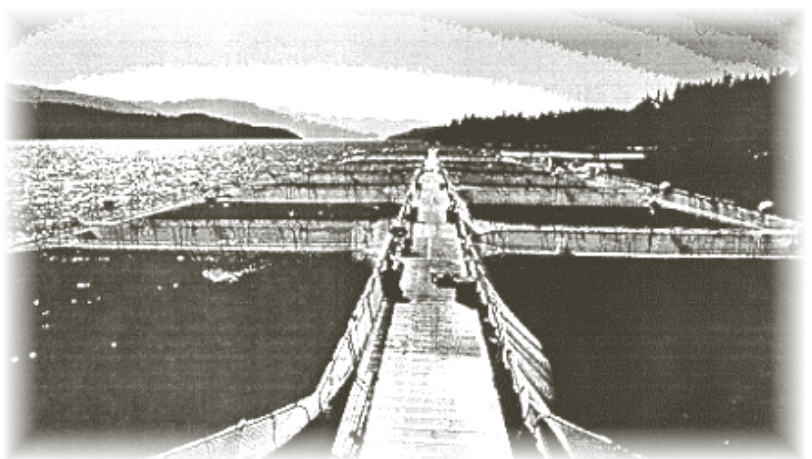
## Conflicting Values

This dispute is typical of resource-use conflicts in coastal-marine areas. Although there were varying views on the advantages and disadvantages associated with the growing salmon aquaculture industry in BC, the interest groups involved in the dispute (including the general public) generally endorsed one of two standpoints. Interest groups either represented individuals who believed salmon farming was environmentally sound and wanted to see the industry grow, or these interest groups represented individuals who believed salmon farming threatened coastal ecosystems and/or resource use and wanted the industry to be regulated very strictly.<sup>3</sup> The BC Salmon Farmers' Association (BCSFA) was the main interest group representing the former standpoint. Other groups supporting the former standpoint also included corporations and individuals associated with the salmon farming industry. Interest groups tending to advocate the latter standpoint, included: First Nation tribes, commercial fishing groups (e.g., BC Aboriginal Fisheries Commission, United Fisheries and Allied Workers Union), Sea Kayak Guides Alliance of BC, BC Yacht Clubs and various ENGOs (e.g., Greenpeace, Georgia Straight Alliance, Sierra Legal Defense Fund, David Suzuki Foundation).<sup>4</sup>

The differing standpoints aforementioned, which helped fuel the salmon aquaculture conflict, in part, emerged from philosophical differences. Simply stated, individuals tended to support either an anthropocentric or ecocentric viewpoint. In other words, individuals supporting the salmon aquaculture industry saw an opportunity to benefit economically from a potentially lucrative coastal-marine resource and solve an unemployment problem. They may have understood the importance of long-term, environmental sustainability of this industry, but their main arguments were economic and ultimately utilitarian or anthropocentric in nature. These individuals also argued that aquaculturalists (using the latest scientific information and an appropriate degree of caution) could mitigate the environmental impact of their salmon farms (Canada NewsWire, 1998a, 1998b, 1999).

Individuals who were critical of the "uncontrolled" growth of BC salmon farming, felt that the coastal-marine environment in BC was under constant threat from this industry. The main concerns for these individuals were the ecological integrity of coastal-marine ecosystems and humans' lack of scientific knowledge surrounding coastal-

## Salmon Farm Net-Cages in the Broughton Archipelago.



Source: Environmental Assessment Office, 1997b.

marine ecosystems (David Suzuki Foundation, 1996,\_\_\_). For example, farming Atlantic salmon along the Pacific coast introduced an exotic species which was thought to out-compete native salmon for food and spawning grounds. The fact that incomplete knowledge of coastal-marine ecology existed and human error was seen as inevitable suggested that there was unacceptable risk associated with the salmon aquaculture industry, even under strict government regulation (Environmental Law Centre, 1998). Those individuals and interest groups arguing the above, primarily endorsed an ecocentric viewpoint. This was especially true for those who believed that ecosystem health and resource sustainability was more important than economic gain (various ENGOs represented this philosophy). Of course, some individuals and interest groups involved in the dispute likely supported a combination of these anthropocentric and ecocentric viewpoints.

For most coastal users, equitable and sustainable use of coastal-marine resources was of main concern. For example, tourism/outdoor recreation-based groups (e.g., sport fisheries, sea kayaking and whale watching companies, yachters) voiced concern about the salmon aquaculture industry competing for valuable resources. Many believed that this competition (for both biophysical and visual resources) threatened the profitability of their tourism business(es) and/or the quality of their outdoor recreation experiences (Marvin Shaffer & Associates Ltd., 1997). Moreover, the environmental quality of coastal-marine areas in BC was important to the success of these tourism-based businesses. The unresolved disputes over the regulation and management of the BC salmon aquaculture industry created varying levels of tension among numerous coastal- and marine-based interest groups (Environmental Assessment Office, 1997b).

Provincial government ministries involved in coastal-marine management also made efforts to maintain their interests with respect to the salmon farming industry (Environmental Assessment

---

<sup>3</sup> For a clearer analysis of the conflict, this article focuses on these two views that are most obviously opposed.

<sup>4</sup> See the Salmon Aquaculture Review Final Report in EAO (1997b) or a complete list of organizations and individuals who voiced concern/support for the salmon aquaculture industry.

---

Office, 1997b). Withing the limits of diplomacy and political integrity, the ministries supported viewpoints that promoted specific policy directives. For instance, the Ministry of Environment, Lands and Parks (MELP) is concerned with the management, protection and enhancement of BC's environment, while the Ministry of Agriculture, Fisheries and Food (MAFF) promoted a competitive, economically viable and environmentally responsible agriculture and food system throughout BC.

## Data and Structural Conflicts

The BC government and the various interest groups possessed incomplete knowledge of specific environmental effects of the salmon aquaculture industry. Inadequate information on the environmental and socioeconomic impacts caused by the salmon aquaculture industry resulted in uncertainty, fuelling the dispute among interest groups. These information gaps and uncertainties also hindered government efforts to manage the industry proactively.

In the late 1980s, the BC government initially conducted two environmental and policy reviews of the salmon aquaculture management system to address public concerns surrounding the site tenure granting process, environmental impacts and conflict with other users.<sup>5</sup> The implementation of the resulting recommendations substantially improved policies and administrative systems for managing salmon farming in BC. However, these government initiatives did not resolve the main sources of conflict and, thus, numerous issues and strong public concern persisted (EAO, 1997).

The provincial government's early attempts to resolve the major issues of salmon aquaculture management failed for several reasons. First, the initial environmental and policy reviews were based on the participation of a single resource sector (i.e., fisheries) and, therefore, government did not employ an integrated approach. Second, the government did not adequately involve the public in a transparent review process, which presented a barrier in addressing their various

concerns. Third, the method used to assess the implementability of recommended strategies was weak (EAO, 1997b). Fourth, insufficient communication of the current management strategies within government agencies hindered the implementation process (EAO, 1997b). Finally, uncertainty about potential environmental risks of salmon aquaculture continued to plague regulation and management efforts. All of the above emerged due largely to the relatively recent and rapid development of the salmon aquaculture industry in BC. This introduced a new dimension to the coastal management framework and caused government to reassess and adjust their regulation and management approach in a reactive manner without appropriate guidance.

Again, without a system of proactive management strategies, public consultation, public access to information (government accountability) and adequate scientific information, the following five key issues associated with salmon aquaculture in BC remained unresolved: 1) impacts of escaped farm salmon on wild stocks, 2) disease in wild and farmed fish, 3) environmental impacts of waste discharged from farms, 4) impacts of farms on coastal mammals and other species and 5) siting of salmon farms.

## BC Government Takes Action to Resolve Dispute

In response to mounting public concern, the salmon aquaculture industry development was halted in April 1995 when the BC government announced the *Action Plan for Salmon Aquaculture*. This plan included a review of provincial finfish aquaculture policy and an environmental review of salmon aquaculture issues, under section 40 of the Environmental Assessment Act.<sup>6</sup> The Action Plan also instituted a moratorium which suspended approvals for new salmon farms for the duration of the environmental assessment and policy review. The government attempted to clarify management and regulatory goals and priorities and address data conflicts by minimizing information gaps through this review process - thereby strengthening the BC government's capacity for appropriate decision making.

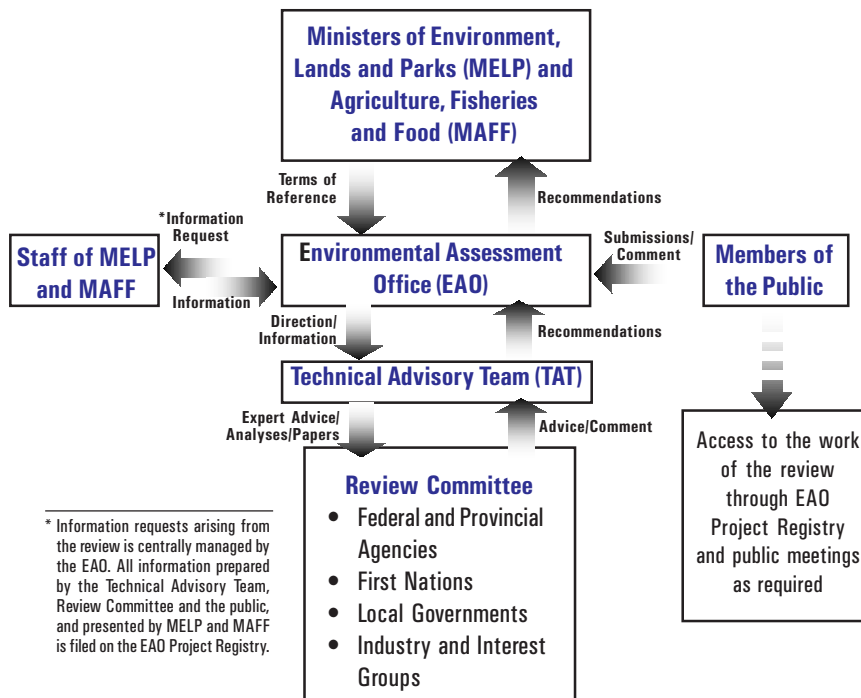
Under the Action Plan initiative, the provincial Environmental Assessment Office (EAO) conducted a *Salmon Aquaculture Review (SAR)*. The SAR considered environmental, social and economic impacts of BC's salmon aquaculture industry and assessed whether the management

---

<sup>5</sup> The BC government's initial response was to place a moratorium on the approval of new salmon farms in 1986 and to launch a public inquiry (called the "Gillespie Inquiry") into the issues. The province acted on the resulting recommendations (e.g., First Nations involvement, protection of the marine environment, resolving user and siting conflicts) and eventually lifted the moratorium. One outcome of this public inquiry was the formation of a "Minister's Aquaculture Industry Advisory Committee" which was mandated to advise the Minister of Agriculture, Fisheries and Food on the "orderly and responsible development of aquaculture" in BC (EAO, 1997b). The committee was comprised of stakeholder representatives and operated until 1993. In 1988, the provincial Office of the Ombudsman and the federal Standing Committee of Fisheries and Oceans each released reviews of the industry as a means to resolve continued disputes over the salmon aquaculture industry.

<sup>6</sup> Salmon aquaculture regulations involve the federal, provincial, and local governments. In 1988, a federal/provincial Memorandum of Agreement divided the responsibility for regulating aquaculture between the Canadian government and the BC government, assigning many of the administrative responsibilities to the province (Hillyer, 1997). The BC government has since assumed the role of licensing salmon aquaculture operations in BC.

**Figure 4. Salmon Aquaculture Review Structure and Process**



Source: *The Salmon Aquaculture Final Report, Environmental Assessment Office, 1997.*

and regulatory practices being implemented were adequate to address concerns arising out of the five key issues: fish farm siting, escaped farm fish, fish health, waste discharge and interactions with marine mammals and other species. Based on the SAR findings, the EAO provided recommendations and policy advice to the relevant BC government ministries.

To assist in the review process, the EAO retained an independent Technical Advisory Team (TAT) to prepare technical discussion papers on the key issues. TAT was a multidisciplinary group, which included a fisheries biologist, a marine ecologist, a fish culturist and physiologist, a veterinarian and epidemiologist, an architectural and environmental planner and a mammalian specialist. The purpose of TAT was to provide objective, technically-based information for the review. In addition, representatives from key interest groups formed an official Review Committee (RC) to provide a forum for discussing issues and to provide TAT with critical feedback during Discussion Paper development. The RC was comprised of voluntary representatives from a range of interested parties including local governments, First Nations, environmental and recreational organizations, commercial fisheries and industry service groups.

Over an eight-month period (September 1996 to April 1997), TAT reviewed the available literature and considered over 85 written submissions from the RC and members of the general public. The Discussion Papers also benefited from local observational information collected at public open houses,

through interviews in a coastal study area and review by other experts. The TAT review process encouraged public participation and provided public access to TAT documents through the internet and public libraries (The SAR structure and process is illustrated in Figure 4). The Discussion Papers contained conclusions regarding specific Review issues and, as the final output, TAT submitted a single, integrated set of recommendations to the EAO for consideration in April/May 1997.

In November 1995, the EAO's terms of reference were amended to explicitly recognize socioeconomic considerations, so as to provide the appropriate context for the SAR. The EAO subsequently commissioned an independent socioeconomic study ("Socio-Economic Impacts of Existing Salmon Farming Operations in British Columbia") to 1) identify the current social and economic impacts of salmon farming and 2) to assess the social and economic effects of alternative regulatory and policy options

to be considered in the SAR. The socioeconomic study team used a variety of data sources, including existing studies, surveys undertaken for this review and extensive consultation with persons involved with salmon farming, affected marine resources and affected communities. From April to June 1997, the EAO evaluated economic, social and administrative implications of TAT's recommendations.

## The Results of the Salmon Aquaculture Review

Based on the technical evaluations and environmental and socioeconomic dimensions of sustainability, the EAO prepared a final report in June 1997 for submission to the BC Minister of Environment, Lands and Parks and the Minister of Agriculture, Fisheries and Food. The EAO made several recommendations with respect to mitigation methods, approval processes and legislative, regulatory and policy guideline changes. Highlights of these recommendations to improve the effectiveness of the province's management system for salmon aquaculture include:

- co-operation and communication among all regulating agencies and levels of government (federal, provincial, local and First Nations),
- comprehensive coastal planning in consultation with governments and stakeholders,

- 
- standardized siting criteria,
  - expanded information collection,
  - strengthened monitoring,
  - more public participation and reporting,
  - enforceable standards for stewardship practices,
  - ongoing refinement of requirements as new research becomes available and consistent enforcement of all requirements.

Taken together, these measures are designed to help protect BC's coastal-marine environment and provide the aquaculture industry with the certainty it needs to develop sustainably. The government moratorium of salmon farms remained in place, however, for at least two more years until the management agencies were in a position to implement the SAR recommendations (MELP, 1996).

The aquaculture industry welcomed the SAR findings and conclusions, which confirmed (although based on incomplete scientific data) that there was 1) no direct evidence found of adverse human or fish health effects of antibiotic use in salmon farming, 2) farmed Atlantic salmon were shown to be incapable of competing and establishing viable wild population in British Columbian waters, and 3) escapes did not have long-term, detrimental environmental impacts. These SAR findings and recommendations to improve government management of salmon farming would allow the industry to do business within government-defined limits of sustainability.

However, a number of coastal- and marine-based interest groups were skeptical of the SAR recommendations. They believed the SAR did not adequately address many of the key salmon aquaculture issues. The Environmental Law Centre (ELC) at the University of Victoria, in BC, reviewed the SAR, producing a comprehensive analysis of the EAO's final recommendations. According to the ELC, the EAO failed to consider a precautionary approach in any meaningful way. A precautionary approach is used when there is a significant level of uncertainty (due to gaps in knowledge) and the consequence of any impact could be very damaging. For instance, the findings mentioned above were based on current escape levels and antibiotic use. These levels or figures will change as the industry develops. If unchecked, the industry could cause unforeseen and unacceptable environmental damage. Thus, effective enforcement of regulations and monitoring and evaluation of the regulation scheme are very important. Management strategies also need to be adaptive and flexible, as new information from monitoring programs becomes available.

## Conclusion

Resolving major disputes over coastal-marine resource use is often a difficult and complex task. The growth of the salmon aquaculture industry along the BC coast is no exception. The BC government initiated an ambitious and comprehensive, two-year review of the salmon aquaculture industry in response to mounting public concern. To their credit, the EAO succeeded in producing a report that employed independent teams of experts to feed a participatory and transparent process. The final report is an extremely useful document outlining various policy-, regulatory- and management-based recommendations that will assist the BC government in making better informed decisions to promote the socioeconomic and environmental sustainability of the salmon aquaculture industry in BC.

The SAR process was long and tenuous, yet succeeded where previous policy and environmental reviews had failed. The SAR provided interest groups and the general public with an official forum to discuss their concerns about the salmon aquaculture industry.<sup>7</sup> To reduce uncertainty surrounding the environmental impacts of the industry, the knowledge and views of independent and interdisciplinary set of experts and a comprehensive list of interest groups were incorporated into the TAT process. The TAT findings and recommendations were central to the SAR process. Furthermore, the BC government succeeded in promoting a transparent process by providing public access to all the SAR process documentation and final output reports. In contrast to previous review initiatives, the SAR embraced an integrative and holistic approach. This approach included several provincial and federal government ministries (in addition to various experts and interest groups mentioned above), included an extensive analysis of all socioeconomic and environmental sectors/resources affected by salmon aquaculture development and involved a review of relevant policies and regulations. These elements discussed above were critical to the SAR process. They helped EAO resolve many of the value, data and structural conflicts which arose from the development of the salmon aquaculture industry along BC's coastal-marine areas.

The EAO submitted the SAR recommendations to the Minister of Environment, Lands and Parks and the Minister of Agriculture, Fisheries and Food. These provincial ministers are now under pressure to make policy, regulatory, and management decisions based on the recommendations. Only once the recommendations are effectively implemented will the BC government, salmon aquaculture industry, interest groups, and general public fully benefit from the SAR process.

---

<sup>7</sup> By 1995, after a decade of conflict over the regulation and management of the salmon aquaculture industry, most stakeholders and interested members of the public were very willing to participate in the SAR public consultation process (EAO, 1997b).

## Avoiding Disputes in the Future

According to the EAO, the implementation of the SAR recommendations should significantly contribute to dispute avoidance as a means of reducing the level of conflict that has plagued government in managing the salmon farming industry during the past decade. Nevertheless, disputes may be expected to occur from time to time with regard to both regulatory decisions and operational practices and performance (EAO, 1997a). The SAR states that the relevant government agencies need to design mechanisms to deal with such disputes in an efficient, fair and effective manner. The current challenges are associated with the implementation of the SAR recommendations. This implementation process will require strong political will and commitment, the adoption of innovative management strategies and the maintenance of the public trust (the trust of the First Nations, in particular).

The participatory, transparent and integrated SAR process helped minimize the conflict among various interest groups (this is especially noticeable in the public forum). Fundamental value differences among the main interest groups have inevitably remained. The dispute over the proper management and regulation of the industry will, therefore, continue to exist. This type and level of conflict is somewhat advantageous. These interest groups continue to question each other's actions and the actions of government agencies managing the industry. This in itself is a monitoring mechanism that will help to ensure that the salmon aquaculture industry develops in a sustainable manner in years to come.

Jennifer Aldrich\*



\* The author is working with PEMSEA as an Intern in marine environmental management training. She has a Master in Environmental Studies from Canada and a background in Marine Protected Area Management. Her internship is funded by the University of British Columbia.

## REFERENCES

- Canada NewsWire. 1998a.** B.C. Salmon farmers decry Suzuki Foundation's deliberate misrepresentation of science, fact (visited October 26, 1999) < <http://www.newswire.ca/releases/September1998/25/c6430.html> > .
- Canada NewsWire. 1998b.** B.C. Salmon farmers call on provincial government to implement environmental assessment review recommendations (visited October 26, 1999) < <http://www.newswire.ca/releases/September1998/24/c5948.html> > .
- Canada NewsWire. 1999.** Escaped atlantic salmon underscores need for government response to salmon aquaculture review (visited October 26, 1999) < <http://www.newswire.ca/releases/September1999/17/c4377.html> > .
- David Suzuki Foundation. 1996.** Salmon farming industry threatens B.C.'s wild fish stocks - Media Release October 24, 1996 (visited October 27, 1999) < <http://www.portaec.net/library/aquaculture/foundation.html> > .
- David Suzuki Foundation. \_\_\_\_.** Net loss: Executive summary (visited October 27, 1999) < <http://www.portaec.net/library/aquaculture/foundation.html> > .
- Department of Environment and Natural Resources, Tanggol Kalikasan - Haribon Foundation and the Asia Foundation. 1996.** Manual on the use of appropriate dispute resolution processes (ADRP) in environment and natural resources. Prepared for the appropriate dispute resolution processes (ADRP) project.
- Environmental Assessment Office. 1997a.** Summary report of the salmon aquaculture review (last updated September 16, 1997) < <http://www.eao.gov.bc.ca/project/aquacult/salmon/report/V1sum.htm> > .
- Environmental Assessment Office. 1997b.** The salmon aquaculture review final report (last updated July 14, 1998) < <http://www.eao.gov.bc.ca/project/aquacult/salmon/report/toc.htm> > .
- Environmental Law Centre (A Society of University of Victoria Law Students). 1998.** Critical analysis of the salmon aquaculture review: An interim report (Executive Summary) (visited October 26, 1999) < <http://www.elc.uvic.ca> > .
- Government of British Columbia. 1998.** Province of British Columbia coastal zone position paper, June 1998. Prepared by Government of British Columbia in the United Nations International Year of the Ocean (visited November 8, 1999) < <http://www.luco.gov.bc.ca/coastal/pt1.htm> > .
- Hillyer, A. 1997.** The management and regulatory framework for salmon aquaculture in British Columbia. Prepared for the environmental assessment office for the purpose of the salmon aquaculture review (last updated June 19, 1997) < <http://www.eao.gov.bc.ca/project/aquacult/salmon/manage.htm> > .
- Marvin Shaffer & Associates Ltd. 1997.** Socioeconomic impacts of existing salmon farming operations in British Columbia. Prepared for the province of British Columbia Environmental assessment Office, with the assistance of Pierce Lefebvre Consulting, Will McKay & Co. Ltd., and Gary Holman (last updated July 14, 1997) < <http://www.eao.gov.bc.ca/project/aquacult/salmon/socioeco.htm> > .
- MELP (Ministry of Environment, Lands, and Parks). 1996.** Environmental review of fish farms proceeds this summer - News release (visited October 26, 1999) < <http://www.elp.gov.bc.ca/main/newsrel/fisc9697044/june/9697044.html> > .
- TAT (Technical Advisory Team). 1997.** Salmon aquaculture review technical advisory team findings and recommendations report: Part A. Prepared on behalf of the Environmental Assessment Office (last updated July 7, 1998) < <http://www.eao.gov.bc.ca/project/aquacult/salmon/report/vol3-a.htm> > .

# Dispute Management Within the Framework of the EIA System:

## The Case of the ECC Application of the BOLINAO CEMENT PLANT COMPLEX \*

**O**n August 6, 1996, the Philippine Department of Environment and Natural Resources (DENR) decided to “deny with finality” the issuance of an environmental compliance certificate (ECC) for the proposed Pangasinan Cement Complex (PCC) project to be located in the town of Bolinao in the Province of Pangasinan because the project, along with its associated facilities, pose adverse impacts to the environment, which are irreversible and non-negotiable. The Department, in denying the issuance of the ECC for the project, applied the principle of precautionary approach in responding to the project’s threat of serious or irreversible damage to the environment.

The case of the proposed Bolinao cement plant complex was highly controversial, unique and, at the same time, very significant. It achieved a number of firsts in the brief history of the implementation of the environmental impact assessment system in the Philippines. The process undertaken offers a number of insights that can serve as guide for both government, the non-government developmental sector and the private sector on how to engage each other in active and creative dialogue as an initial step towards better management of environment and natural resources-related conflict.

### **Background: The Proposed Cement Plant Complex**

On 1 December 1994, the PCC submitted the Environmental Impact Statement (EIS) to DENR for a proposed cement plant complex to be constructed in the coastal town of Bolinao in the province of Pangasinan.

The proposed Bolinao Cement Plant Complex included a cement plant, a 60-megawatt coal-fired power plant, a 10-kilometer conveyor belt and a 550-meter wharf, or pier. The complex was to be constructed in So. Guiguiwanen, Brgy. Luciente I, Bolinao. The cement plant would be constructed

200 meters from the coast and would operate for 24 hours requiring four work shifts. It was designed to have annual production capacity of 3.2 million tonnes half of which would be exported to Taiwan. The proposed complex would also include a 10-kilometer conveyor belt, which would mostly be elevated, to transport limestone rock materials from the quarry site to the cement plant. In addition to the conveyor belt, there would be dump trucks to load and deliver clay materials to the plant.

The 60-megawatt coal power plant was targeted to supply the electricity requirement of the complex to enable it to meet its maximum production capacity and its 24-hour operation. The plant was expected to require about 600,000 tonnes of raw coal annually. It was estimated to consume 1,400 tonnes per hour (TPH) of water for its cooling requirement.

The raw materials for the cement plant (clay and limestone) were to be sourced from a quarry site covering

---

\* This article is based on a report submitted by the author to the ADRP Project jointly implemented by the Tanggol Kalikasan, Inc./Haribon Foundation, Inc. and the Legal Affairs Office of the Philippine Department of Environment and Natural Resources with funding support from The Asia Foundation.

---

four *sitios* (villages) of Barangay Estanza, which translates to 22 blocks at 2500 m<sup>2</sup> per block. It was estimated that the designated quarry sites contained mineable reserves to last 130 years. During the construction phase, the project would have required the setting up of facilities such as temporary shelters for workers and for storage of construction materials and equipment, a temporary office as well as a makeshift clinic. However, storage shelters and workers' bunkers would be demolished upon completion of all construction activities.

## **The Choice for Bolinao**

The town of Bolinao is located on a cape off the northwestern tip of Pangasinan. It is situated on the western side of the Lingayen Gulf, bounded on the north and west by the South China Sea, on the east by the island town of Anda and the Caquiputan Channel and the town of Bani on the south. It has a total land area of 23,320 hectares divided into 30 barangays, 22 of which are located along the coast. Barangay Luciente I, the site of the proposed project, is one of the most populated areas of Bolinao. Limestone is generally abundant and found almost everywhere in Bolinao.

PCC chose Bolinao because the town has abundant limestone deposit that would have allowed the plant to operate for a significant length of time. Bolinao also has enough supply of freshwater, which was deemed sufficient to sustain the plants' operations. In addition, Bolinao has a deep water cove. It is also strategically located along the main shipping route of Asia that is close to the South China Sea, which would have reduced transshipment time significantly. Also, the size of the town's population could have easily met the human resources requirement for the construction and operation phases of the proposed complex. These were the reasons why the proponent was rather inflexible about the siting of the project.

Both in the first and second reviews, a proposed alternative site was lacking. During the second review, it became clear that the proponent was not going to identify an alternative site for the project. DENR asked PCC if it was open to relocate the proposed project to another site but PCC categorically stated the site was non-negotiable.

## **Issues Raised Against the Project**

The application for an ECC for the Bolinao cement plant project was twice rejected by the DENR. On both occasions (October 1995 and August 1996), the following were the three major issues against the project:

a) **Unacceptable environmental risks** - The activities that would be associated with the proposed cement plant posed serious risks to what the committee members

deemed as very valuable environmental assets and that the proposed measures submitted by the proponent to deal with the probable risks did not seem to be effective.

b) **Serious land- and resource-use conflict** - The project would seriously compete with existing land, marine and water usage in the area. Preferred activities as articulated in the Lingayen Gulf Coastal Area Management Plan, were fishing and ecotourism.

c) **Problems of social acceptability** - Notwithstanding the number of supporters and oppositors of the project, what was regarded with equal if not greater importance were the issues raised against the project that remained unresolved making the project socially unacceptable. The project and the issues surrounding it deeply divided the community because, at the heart of the matter, was the issue of conflict of interests and not just mere ignorance or lack of information on the project.

These issues were raised in both the first and second review processes. On both occasions, the proponent failed to adequately address the concerns.

## **The Stakeholders: Supporters and Oppositors**

As expected, a project of this magnitude and its accompanying impacts turned controversial almost overnight. In an instant, almost the entire town was polarized into two warring camps - those who supported the project and those who opposed it. Even families were divided on the issue. Former allies and friends became enemies over the issue of the cement plant.

Among those who openly supported the proposed project were members of the local government of Bolinao, including the local Executive Office, the Municipal Board/Council of Bolinao (Sangguniang Bayan), the Association of Barangay Councils (ABC) of Bolinao, certain members of the Provincial Board (Sangguniang Panlalawigan), some members of the local business community, the Vice Governor of Pangasinan and the Speaker of the Philippine House of Representatives. Later, however, some retracted their endorsement, perhaps sensing the growing unpopularity of the project among their constituents. Among them were several members of the Association of Barangay Councils of Bolinao, including its President.

Those who opposed the project, on the other hand, were led by local residents whose livelihood depended heavily on the healthy condition and, ultimately, on the sustainability of Bolinao's natural resources, particularly its local fishery resources. Local residents, especially fishery dependent communities claimed that fisheries and other marine resources

---

would be the first casualty if the project pushed through. Local residents and communities who opposed the project later organized themselves and came to be known as the Movement of Bolinao Concerned Citizens, Inc. (MBCCI).

In addition to the MBCCI, the University of the Philippines Marine Science Institute, which operates a science laboratory in Bolinao, also opposed the project. Other oppositors included the Lingayen Gulf Coastal Area Management Commission (LGCAMC), the Women in Development Foundation, the Bolinao District Teachers' Association, members of the Bolinao Public and Private School Teachers group, the Municipal Council of the town of Anda and the Diocese of Alaminos, a national church group, the Visayas, Diliman and Manila chapters of UP, and the Haribon Foundation, which helped organize the local fisherfolk of Bolinao. The Governor also openly opposed the project.

### **The Pro-Cement Bloc**

Those who supported the project welcomed it because they believed that the project would help draw in more investments to Bolinao and, hopefully, help transform Bolinao into a major economic hub in Pangasinan. Such a large investment as the cement plant complex would spur further

---

---

*Thirty-one percent of  
the population in  
Bolinao are dependent  
on coastal resources  
for employment.*

---

---

McManus et. al, 1992.



economic activity towards industrialization, not just for Bolinao but for the entire province of Pangasinan. This would mean more jobs for the local residents, opportunities for retraining and enhancing local human resources and increased tax revenue for the local government. This interest was commonly expressed by the Provincial Board of Pangasinan, the Municipal Council of Bolinao, the town's Vice Mayor, Vice Governor and the Congressman of Pangasinan. In response to the various issues raised against the project by the opposition, the pro-cement bloc maintained the following:

- a) Setting up the proposed cement plant complex in Bolinao would put the town at an economic advantage and enhance its role in the development of the Northwest Luzon Growth Quadrangle. It would help channel "numerous benefits" to the town and its people, such as employment opportunities and "other socioeconomic benefits", and "will drive Bolinao towards progress and economic development". Bolinao's strategic location and its deep water harbor would enable PCC and other possible investors "to compete and trade effectively with the industrialized economies of the Asia Pacific region".
- b) The proponent has "sufficiently demonstrated its technical expertise, financial capability and commitment to comply" with Philippine environmental laws, policies and standards. The project would adopt the latest in modern technology and the most "environment-friendly cement production process" in its operation so as not to pollute the environment.
- c) The establishment of a heavy industry project in Bolinao "does not preclude the adoption of multiple development strategies, particularly eco-tourism, based on given resources, local capabilities and comparative advantage."
- d) The Bolinao fishing industry can no longer "sustain and support" the town's food requirements nor generate revenue that is enough to meet a household's basic needs. It was time to look for a long-term alternative source of livelihood and the cement plant project could very well be that initial alternative.
- e) At the time the project was proposed, the country faced a shortage in the supply of cement. Allowing the project to push through would help address the delays in the implementation of government and private sector development projects. Adding to locally available supply of cement would also help stabilize the prices of other local construction materials.



---

## The Oppositors

The issues raised against the project by the oppositors may be classified into three general categories, which almost matched the three main issues identified and used as bases by the expanded review committee in denying the issuance of the ECC for the project.

- a) **Land-Use Conflict/Project Site** - The proposed cement plant was considered a heavy industry that was highly extractive and pollutive. The project ran counter to the nature of development intended for Bolinao as expressed in the Lingayen Gulf Coastal Area Management Plan (LGCAMP), the Regional Development and Physical Framework Plan, Proclamation 156, which legally classifies the Lingayen Gulf as an environmentally-critical area, and certain provisions of Agenda 21, which provides for the “protection of the oceans... and coastal area and the protection, rational use and development of their living resources.” As an environmentally-critical area, extractive and pollutive industries can seriously constrain the long-term productivity of naturally renewing systems upon which the sustainable development of the town is based.

The proposed cement plant complex, therefore, should be constructed in an area where there is less risk of environmental degradation.

- b) **Pollution-Related and Other Technical Issues** - Despite the proponent’s claim that the project would utilize the state-of-the-art in the cement and the power plants’ operations, there were serious doubts regarding the PCCs capability and commitment to adopt measures to control pollution from the quarrying and the operation of the cement plant. Specifically, the oppositors raised several issues against the quarrying and shipping components of the project and on the design and operation of the cement plant and the power plants, including their impact on their immediate environment and on the local water supply.
- c) **Problem of Social Acceptability (Socioeconomic and Health-Related Issues)** – There were issues raised relating to the serious threats posed to local public health, livelihood, environment and natural resources. Locals dependent on the coastal resources of Bolinao were also threatened to be socioeconomically dislocated.

## The Second Review Process

### Submission of New Information

Four months after DENR denied the issuance of its ECC, the project proponent submitted to the DENR a report, coined

as “new information”, which sought to address the issues mentioned in the earlier letter of the Secretary on the project’s ECC. The new information was divided into the three major problem areas of land use conflict, social acceptability and technical issues. It likewise attached photocopies of resolutions, endorsements and news clippings supporting the Bolinao cement complex project.

### The Expanded EIA Review Committee

The DENR, thus, initiated a series of consultations with representatives of both the proponents and the oppositors as a way of gathering inputs and the process options to facilitate a more transparent EIA process. Among the options discussed was the organization of an Expanded EIARC. This option was the most acceptable to both parties and for the DENR. It allowed DENR to fulfill its commitments to the President and to have a new review committee conduct a second review of the project without compromising the integrity of the EIA Law in terms of policy and procedure. It was also a cost efficient strategy because the committee did not have to disregard their earlier assessment of the original EIS and other related documents submitted during the first review.

The oppositors, however, registered their concern about DENR’s decision to grant a second review since such a move would unavoidably imply some doubt on the integrity of the earlier review process that led to the first denial. Also, a decision by DENR to convene a completely new EIA review committee would have undermined the position and the credibility of every member and the whole of the first review committee and could discourage other scientists from taking on such a responsibility in the future. Thus, it was important that the decision on the nature and composition of the review committee who could look at the new submission took this concern into consideration. Nonetheless, the representatives of the oppositors equally recognized the lack of marine pollution and land use experts in the previous review committee, who could have strengthened even more the committee’s earlier findings.

As a result of the series of consultation with representatives of the proponent and the oppositors, the DENR formally created the Expanded EIARC. The Committee was composed of all the members of the first EIARC which gave the initial recommendations and three new members who were experts in the fields of marine pollution, land use and/or hydrology. Their overall task was to assess and evaluate the proponent’s new information along with the existing EIS and other related documents. More specifically, the tasks of the Review

---

Committee were the following:

- a) review and discuss the EIS particularly the new information submitted by the proponent vis a vis the response of other sectors and affected communities;
- b) provide an opportunity for the parties, i.e. the proponent and the opponents, in two separate proceedings to present before the committee their respective arguments on the technical aspects of the proposed project;
- c) should the proposed project pass the technical review phase, a closer scrutiny of the social acceptability issues would be pursued; and
- d) the Expanded EIA Review Committee would submit its consolidated recommendation to the EMB Director for transmittal to the DENR Secretary.

One of the more remarkable steps that was adopted in the second review process was the decision to provide two separate opportunities to the representatives of each party where they presented before the committee their respective arguments on the technical aspects of the proposed project. This was an innovation for the existing DENR practice in assessing EIS.

### **The Process Flow**

During the series of consultations with the proponent and the opponents, the DENR gathered inputs from both parties on how best to proceed with the actual review and negotiated with them on specific activities that must or must not be part of the entire strategy. The results of those negotiations ultimately shaped the character of the second review process. The following were the protocols observed during the second review:

- 1) The Expanded EIARC reviewed the new information submitted by the proponent together with the existing EIS and other relevant documents. The PCC and the oppositors each had an opportunity to make separate technical presentations before the Expanded EIARC on the technical aspects of the project, which were all considered in the final consolidated recommendation.
- 2) The Expanded EIARC was under strict instructions that should they recommend the denial of the ECC, the bases of that decision must be very clearly stated and ready for public scrutiny. A recommendation of denial of ECC would be endorsed directly to the Secretary for

the final decision and implementation of such a decision. Should they recommend the issuance of the ECC, the accompanying conditions would be brought to the oppositors, the local government units and other stakeholders for their final comment.

- 3) The members of the Expanded EIARC were advised not to interact, as much as possible, with any member of the opposition nor with any representative of the proponent so as to avoid any allegations that the process was tainted. They were also under strict instructions not to discuss with the press the merits of the case nor the issues involved. Only the DENR Undersecretary for Legal was authorized, with proper clearance from the Secretary, to issue press releases. This avoided negative entanglement with the press.
- 4) The final decision/recommendation should be a decision by consensus. However, if the Committee was divided on the issue, separate reports must accordingly be made.
- 5) Site visits/ocular inspection/s, which were deemed necessary by the Expanded EIARC, were made at no expense to the project proponent.
- 6) The final decision or recommendation of the Expanded EIARC would apply to every component of the proposed Bolinao Cement Plant Complex - i.e., the cement plant, power plant, conveyor belt, quarry site and operation, wharf and other facilities and/or activities relevant to the entire project.

Soon after it was formally constituted in June 1996, the Expanded EIARC immediately reviewed all the original EIS, new information and other relevant documents officially submitted by the proponent. The Expanded EIARC held regular meetings to discuss the individual assessments and comments on the documents. Process observers from DENR were regularly present. As process observers, they provided clarifications on matters specific to the EIA law, the EIA process, pertinent laws and protocols that governed the review process and the commitments related to the conduct of the process made by DENR to both parties.

Members of the Expanded EIARC together with the DENR team went to the proposed project site for inspection. During this trip the team also had separate meetings with officials and staff of the Lingayen Gulf Coastal Area Management Council and with the Mayor of the town of Bolinao together with some members of the Municipal Council. The team also visited the Marine Science Laboratory and were met by townfolk who were against the project. The people misinterpreted the visit and thought that the team was there to conduct a public hearing.

---

## The Public Dialogue

Instead of holding the usual public hearing, the Expanded EIARC opted to convene separate technical meetings with each of the parties. The technical meeting gave each party the chance to substantially tackle the technical issues of the project. For the Expanded EIARC members, these meetings gave them the opportunity to interact and clarify with the parties specific aspects of their presentations, without compromising the integrity of the entire process. Holding the technical meetings instead of a public hearing avoided possible direct confrontation between the parties which might worsen the conflict situation which was escalating. Focused group discussions with selected representatives of the opposition group were also held at the Marine Science Laboratory in Bolinao. What was originally conceived as just a small and informal dialogue with representatives from the opposition turned into a major public gathering which was covered by the local press.

The major points raised during the technical meetings and the results of the evaluation of all documents officially submitted as project EIS were carefully studied and consolidated and became the bases of the Expanded EIARC's final recommendation. The report was submitted to the DENR. After a review of the recommendation and the process, the DENR once again denied the application for an ECC.

The final decision was immediately relayed to the proponent through a letter addressed to the official representative of Pangasinan Cement Corporation. All those involved in the review process were under strict instructions to observe confidentiality after the release of the decision first to the proponent then to the oppositors. DENR ensured that the final verdict was released to the public, including the press, only after the proponent was informed of the decision, including all its important details.

## Insights

a) The strength of this case lied in its highly consultative and transparent process. Both parties were consulted and were allowed to provide some level of guidance in designing the second review process. Their inputs were also considered in coming up with a set of protocols that governed the conduct of the process itself and of the individuals - i.e. the members of the Committee, the DENR officials, and the technical staff who managed and/or assisted in the implementation of the process and every other decision related to it.

- b) The highly consultative and transparent nature of the Bolinao case was a milestone achievement in the sense that it was able to show the extreme potentials of the EIA system as a tool and a venue for managing environment-related conflicts. The experience revealed that substance decisions became less arbitrary when process decisions were also less arbitrary. The integrity and degree of thoroughness of the process lent strength to the final decision such that it became difficult to just overturn the final recommendation of the Committee.
- c) Indeed, the success of the process can be partly attributed to the DENR leadership who were innovative, creative and had a thorough appreciation of existing environmental laws and policies. These characteristics enabled the decision makers to explore the limits of the policy framework and the process indicated in the EIA law. But such innovation would not have been possible were it not for the opportunities for dispute resolution found in the EIA law itself.
- d) The dispute management approach in the Bolinao Cement Plant controversy clearly showed that the whole matter of conflict resolution or the application of so called Appropriate Dispute Resolution Processes in environment-related conflicts within the framework of the EIA System does not begin much less end, with the conduct of a public hearing or dialogue, or even a technical meeting. The Bolinao case has shown that the entire process of securing an Environmental Compliance Certificate is conflict management and that starting it right on day one is very important in moving the process forward. Again, transparency and consultation are the key ingredients that facilitate dialogue and can help sustain the openness and willingness of parties to engage and remain committed in the process. In the case of Bolinao, the DENR as the facilitator of the process and, ultimately the decision maker played its twin roles very responsibly. It helped a lot that the case was highly controversial at that time because it forced the DENR to act with great prudence and wisdom in the decisions that it made.

*Marie Lourdes Baylon\**

\* The author was a consultant of the Department of Environment and Natural Resources at the time that the Bolinao controversy took place.

## REFERENCE:

**McManus, J., et al.1992.** Resource Ecology of the Bolinao Coral Reef System. International Center for Living Aquatic Resources Management, Manila,Philippines. 117 pp.

# Shrimp Aquaculture and Resulting Conflicts in the Thai Coastal Area:

## A GOLDEN OPPORTUNITY

### The Golden Industry in the Seventies

*In the early seventies, the Government of Thailand promoted shrimp farming to boost foreign exchange revenues and to enhance income and employment opportunities of those in the rural areas. With continued support from the government, shrimp farm production increased at a steady pace. A sustained demand for shrimp in the world market resulted in the intensification of shrimp production in Thailand between 1987 to 1991, significantly contributing to record GDP growth rates during that period.*

Flaherty and Choomjet Karnjanakersorn, 1995.



*While shrimp farming began in the eastern and central parts of Thailand, the main production areas are now found in the south of Thailand.*



Source: Coastal Resource Institute, 1991.

*Shrimp grading for processing in Pak Phanang in Southern Thailand.*

### Dwindling Mangrove Forests

**While aquaculture contributed to the economic development of Thailand, it also took a toll on its mangrove forest, aquaculture being the single largest contributor to mangrove depletion (Flaherty and Choomjet Karnjanakersorn, 1995).**

The policy promoting aquaculture and rural development clashed with measures undertaken by the Thai government to conserve its remaining forest resources (Coastal Resources Institute, 1991). The problem was aggravated by the fact that Thai laws on mangrove forests were vague, unclear and inadequate to curb the increasing conversion of mangrove areas into aquaculture farms. For example, the National Forest Policy endorsed by the Cabinet in 1985 promoted both conservation and development of mangrove resources, thereby encouraging entry into mangrove areas that were not covered by the logging ban (Flaherty and Choomjet Karnjanakersorn, 1995 and Suthawan Sathirathai, 1999). While the State has the authority to set aside, classify as restricted areas or allocate mangrove areas for private acquisition, very few restricted mangrove areas have been declared (Panat Tasneeyanond and Somnuk Rubthong, 1991). Those that have been set aside are not, in fact, fully protected. Locals who move into mangrove areas and clear the forest to

---

construct improvements are eligible to apply for land use certificates. Moreover, until recently, financial assistance was extended even to those who were illegally operating shrimp farms within mangrove areas (Office of Environmental Planning, 1997).



*Mangroves may be found along Gulf of Thailand's east and west coasts. Between 1961 to 1986, aquaculture was the single largest contributor to mangrove loss*

### **Direct and Indirect Conflicts Arising from Shrimp Farming Activities**

Loss of mangrove areas was not the only problem resulting from the increased shrimp farming activities. Conflicts with local communities also intensified in some aquaculture areas. For example, shrimp farming, while based in coastal villages, was dominated by urban-based investors who provided limited and low-paying employment opportunities to coastal dwellers (Flaherty and Choomjet Karnjanakersorn, 1995). Tension between these two sectors is aggravated by the fact that mangrove clearing appears lucrative from the standpoint of individual entrepreneurs and economically disadvantageous as far as local communities are concerned. Moreover, it is the local community that has to continue to live with the consequences of mangrove loss long after the investors have abandoned their shrimp ponds (Suthawan Sathirathai, 1999).

The day-to-day operations of shrimp farms also created conflicts between shrimp farmers and other resource users. Locals take the brunt of the pollution coming from shrimp ponds due to the brackish water that seeps into groundwater supplies and adjacent rice fields, and negatively impacting on potable water supply and rice production. Mangrove loss has also affected the productivity of onshore and offshore fisheries (Flaherty and Choomjet Karnjanakersorn, 1995). Thus, despite the initiation of zoning between large-scale and small-scale fishers (Office of Environmental Planning, 1997), the scarcity has already resulted in violent incidents between small-scale fishers and commercial trawlers (Flaherty and Choomjet Karnjanakersorn, 1995 and Ruangrai Tokrisna and Maitree Duangsawasdi, 1993).

### **Managing the Conflict**

An integrated coastal zone management plan is one of the tools to prevent the escalation of conflicts created by the different activities that occur within the coastal zone (Flaherty and Choomjet Karnjanakersorn, 1995). Such a plan is a move away from sector-based policies that have been a chief cause for conflicts among various stakeholders in the coastal area. The plan would specify the activities to be permitted within the coastal zone, priority issues that would be tackled, and strategies to tackle these issues and identify the role of various stakeholder groups in the coastal zone.

Thailand's attempts at promoting integrated coastal and marine resource management since the early 1990s indicated potential for this approach to strengthen cooperation between the agencies involved in this area (Office of Environmental Planning, 1997).

One of the main barriers in developing such a plan, however, is the lack of an intergovernmental cooperation in coastal areas. There is no single national agency having overall responsibility over coastal management or having jurisdiction over both marine and land areas (Office of Environmental Planning, 1997). Another important challenge in formulating this plan is bridging perceptions of various sectors, e.g., allowing shrimp farmers to see not only the benefits accruing to them, but the cost incurred by the community as a result of such activities. Appreciating the stake that others have in the common resource will facilitate sharing of responsibility.

### **Overcoming Barriers through Appropriate Dispute Resolution Tools**

Stakeholder participation is a key ingredient for a successful implementation of any management plan (Menasveta, 1998). Neglect of the important role of communities and non-governmental organizations (NGOs) in managing forest resources has been identified as contributory to the failure of earlier efforts to protect Thai forests (Office of Environmental Planning, 1997).

Dispute resolution techniques can facilitate communication among these stakeholders and ensure that discussions remain focused on the issues, instead of degenerating into unproductive discussion. For instance, the proposed coastal management plan may contain recommendations for the relocation or cessation of certain activities. The adoption of any such recommendations for zoning should, ideally, be by consensus or through negotiation or mediation if consensus is not achievable (Department of Environment and Natural Resources, Tanggol Kalikasan – Haribon Foundation and the Asia Foundation, 1997).

Dialogue among small-scale shrimp producers may strengthen the shrimp farmers' sense of common responsibility. Discussions among the shrimp farm operators and other coastal zone users on the viability of various options for minimizing the adverse effects of shrimp farming and the technology available would highlight their shared interests and lead towards greater cooperation and information sharing. Negotiation techniques could be effectively used in encouraging the members of the shrimp industry to improve their standards of operation (Department of Environment and Natural Resources, Tanggol Kalikasan – Haribon Foundation and the Asia Foundation, 1997). Such efforts would include raising their awareness regarding environmental problems of other coastal zone users and enabling them to recognize the economic benefits of adopting production strategies that minimize environmental degradation (Flaherty and Choomjet Karnjanakersorn, 1995).

## On The Way to Resolution

Fully realizing the limited resource available to various stakeholders, negotiations should be aimed at allocation of responsibilities. For instance, shrimp pond operators could commit to improving their wastewater treatment systems while the government could assist through investment in basic infrastructure to improve water supplies to farms and encourage farmers to cooperate in water management (Flaherty and Choomjet Karnjanakersorn, 1995). Steps toward this direction have already been taken. Effective in 1993, the Ministry of Agriculture and Cooperatives required seawater

shrimp farms of 50 rai<sup>1</sup> and above to adopt specified pollution control measures (Office of Environmental Planning, 1997). The Department of Fisheries has also introduced a seawater irrigation project in the main shrimp production areas to minimize pollution (Office of Environmental Planning, 1987 and Kongkeo, 1995).

The agreements reached during consultations among the various sectors could be enforced through a combination of governmental and nongovernmental efforts, especially at the local level. NGOs and academic institutions in the area may assist stakeholders who have not yet achieved the appropriate level of organization. These agreements should then be revisited periodically, with the aid of results of monitoring activities, which should form an essential part of the management plan.

While Thailand has begun to take a more serious look at integrated coastal and marine resource management, limited success has been achieved. A midterm review of the 7<sup>th</sup> National Plan (1991 to 1996) showed that while the economic objectives had been met, more effort was required to achieve the social and natural resources and environmental objectives (Office of Environmental Planning, 1987). Alternative dispute resolution should and will definitely find its rightful place in the intensification of these efforts.

*Maria Soccorro Z. Manguiat\**

\* The author is the legal officer of PEMSEA.

<sup>1</sup> One square rai is equivalent to 1600 square meters.

## REFERENCES

**Coastal Resources Institute, 1991.** Coastal management in Pak Phanang. A historical perspective of the resources and issues. Prince Songkla University, Hat Yai Songkhla, Thailand, 96 p.

**Department of Environment and Natural Resources, Tanggol Kalikasan – Haribon Foundation and the Asia Foundation, 1997.** Manual on the use of appropriate dispute resolution processes (ADRP) in environment and natural resources. Department of Environment and Natural Resources, Manila, Philippines, 48 p.

**Flaherty, M. and Choomjet Karnjanakersorn, 1995.** Marine shrimp aquaculture and natural resource degradation in Thailand. *Environmental Management* 19 (1): 27-37.

**Kongkeo, H., 1995.** How Thailand made it to the top, p. 25-31. *In* INFOFISH International, January/February 1995.

**Menasveta, D., 1998.** Fisheries management needs and prospects for the countries bordering the Gulf of Thailand, p. 205-224. *In* D. M. Johnston (ed.). *Seapool Integrated Studies of the Gulf of Thailand Vol. 1. Southeast Asian Programme in Ocean Law, Policy and Management*, Bangkok, Thailand.

**Office of Environmental Planning, 1997.** Thailand's action for sustainable development. Ministry of Science, Technology and Environment, 122 p.

**Panat Tasneeyanond and Somnuk Rubthong, 1991.** Legal and institutional issues affecting the management of Thailand's coastal region (A case study of Phuket province). Office of the National Economic Board, The University of Rhode Island, Department of Technical and Economic Cooperation, United States Agency for International Development, 46 p.

**Ruangrai Tokrisna and Maitree Duangsawadi, 1993.** Thailand experience in fisheries management, 532-537. *In* FAO Fisheries Report No. 474, Supp. Vol. 2 (FIPD/R474). Food and Agriculture Organization of the United Nations, Rome.

**Suthawan Sathirathai, 1999.** Costing coastal conservation: the case for community-led mangrove protection. *In* Economy and Environment Program for Southeast Asia Policy Brief, January 1999, Singapore.

## GEF-UNDP-IMO Launches Regional Programme to Respond to Critical Coastal and Marine Environment Problems in the East Asian Seas



Partnerships in Environmental Management for the Seas of East Asia

A Project of the Global Environment Facility

### Home of 1.8 billion people

The East Asian Seas region is the most populous region in the world. It is home to almost 1.8 billion people, sixty percent of whom are concentrated in coastal areas. In the past decade, the region has been the center of considerable economic growth bringing about increasing urbanization in the region. Around 300 million people live in coastal urban centers.

Around 30% of the world's coral reefs (Figure 1), one-third of the world's mangroves (Figure 2) as well as many other important critical habitats are found in the region. An initial valuation of the coral reefs in Southeast Asia estimate a value of \$112.5 billion annually (Ruitenbeek, 1999). The region comprises the world's richest marine biodiversity and produces about 41% of the total fish catch in the world.

The East Asian Seas region is also considered a major hub of maritime trade with a significant number of international and domestic seaports situated along the coastline. The ports provide a sea link between the neighboring countries and also serve as gateways to regional markets with major trading partners in the West.

### Threat to the lifeblood of the East Asian people

Excessive exploitation of the renewable and non-renewable resources and unregulated economic activities in the coastal environment are posing severe environmental stresses, threatening food security, reducing employment opportunities, causing social unrest and offsetting the economic gains realized in past decades. Continued unsustainable patterns of production and consumption threaten the very lifeblood of the region.

Figure 1. Coral Distribution in East Asia

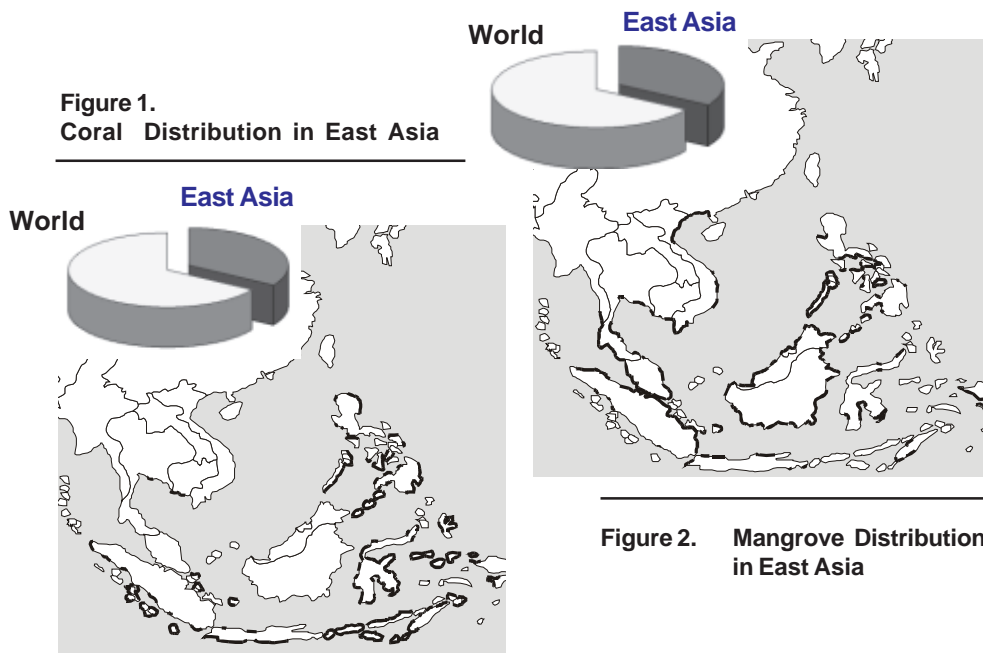


Figure 2. Mangrove Distribution in East Asia

### PEMSEA: Cooperation of East Asian countries to manage their ocean

Recognizing the threat to their own living environment, eleven countries in the region, namely, Brunei Darussalam, Cambodia, Democratic People's Republic of Korea, Indonesia, Malaysia, People's Republic of China, Philippines, Republic of Korea, Singapore, Thailand and Vietnam requested the assistance of the GEF/UNDP to develop a system of management at the local, national and regional levels. Responding to the needs of the times, the GEF recently launched the Regional Programme on Partnerships in En-

(continued on page 32)

vironmental Management for the Seas of East Asia (PEMSEA). PEMSEA is a five-year programme executed by the International Maritime Organization (IMO).

Realizing that governments alone cannot stem the continuing destruction and misuse of coastal and marine resources of the East Asian Seas, PEMSEA strategy involves building partnerships across the public and private sectors of the economy.

PEMSEA builds upon the management frameworks developed during the GEF Pilot Phase, the GEF/UNDP/IMO Regional Programme for Marine Pollution Prevention and Management in the East Asian Seas:

- integrated coastal management, addressing land-water interactions and the impacts of human activity; and
- risk assessment/risk management applied to sub-regional sea areas and pollution hotspots.

Demonstration sites are being set up throughout the region to provide hands-on experience in implementing the two management mechanisms. The project ultimately aims to establish self-sustaining marine resource facilities, which will provide technical services to governments of the region over the long-term. In addition, the project will lay the foundation for a regional mechanism to strengthen national efforts in addressing transboundary environmental issues, through collaborative implementation of international conventions related to the marine environment.

**REFERENCE:**

Ruitenbeek, H. J. 1999. Blue pricing of undersea treasures – needs and opportunities for environmental economic research on coral reef management in South East Asia. Paper presented to the 12<sup>th</sup> Biannual Workshop of the Economy and Environment Program for Southeast Asia, Singapore, 11-14 May 1999. IDRC. Singapore.

## Strategies Adopted by the East Asian Countries through PEMSEA

### Key approaches identified to address the environmental management issues

- Build national and regional capacity to implement integrated coastal management programmes;
- Promote multi-country initiatives in addressing priority transboundary environment issues in the Gulf of Thailand and the pollution hotspots in the Bohai Sea and Manila Bay;
- Build the capacity of participating countries in the sustainable management of coastal and marine areas, especially at the local level;
- Reinforce and establish a range of functional regional networks to support environmental management;
- Identify environmental investment opportunities, promote mechanisms such as public-private sector partnerships and package environmental projects for financing and other forms of developmental assistance;
- Advance scientific and technical inputs to support decision making;
- Develop integrated information management systems linking selected project sites into a regional network for data sharing and technical support;
- Establish the enabling environment to reinforce the delivery capabilities and advance the concerns of non-government and community-based organizations, environmental journalists, religious groups and other stakeholders;
- Strengthen national capabilities for developing integrated coastal and marine policies; and
- Promote regional commitment for implementing international conventions and strengthening regional and sub-regional cooperation and collaboration using a sustainable regional mechanism.



## PEMSEA Promotes the Development of a Marine Electronic Highway for the Malacca Straits

# Newsbriefs

PEMSEA is promoting the development of a marine electronic highway (MEH) in the Malacca Straits that will integrate the electronic navigational chart (ENC) with an environmental database. The GEF, through the World Bank, and the International Maritime Organization, and the private sector are keen on continuing the work realizing the benefits that the shipping sector will gain from this navigational infrastructure. If adequately developed, the MEH will integrate precise ENCs with water level positional information and other environmental information, thus generating precise information, which could enhance navigation safety and reduce environmental risks. Increased loading and reduced accidents will result in increased revenues to the shipping community. This additional revenue could provide a sustainable source of financing for investment capital requirement and the operation of the MEH.

In the Conference on the Malacca and Singapore Straits held last 14-15 October 1999 in Singapore, Dr. Chua Thia-Eng and Mr. S. Adrian Ross, PEMSEA Regional Programme Director and Senior Programme Officer respectively, presented a joint paper entitled, "The Marine Electronic Highway (MEH): Concepts and Challenges." Three main challenges were identified facing the development and implementation of the MEH in the Malacca Straits. These include: technological challenges; financial challenges and economic issues; and policy considerations. The MEH project will require multisectoral and multinational user groups. This suggests that transparency, trust and confidence will be essential elements of the planning and development process. PEMSEA suggested the concept of Public Sector – Private Sector Partnership as a means of integrating data providers, distributors and users from both sectors into an operating mechanism. A partnership of this type must be founded on a shared risk-shared reward charter.

## Six East Asian Countries Prepare for Launching of National ICM Demonstration Sites

Six participating countries of PEMSEA have identified national ICM demonstration sites in accordance with PEMSEA site selection criteria. Initial site evaluations, national consultations, site tours and site selection missions were jointly undertaken by PEMSEA and the national focal points in Cambodia, DPR Korea, Indonesia, Malaysia, Thailand and Vietnam. During the missions, extensive consultations with various stakeholders, including local government units, industries, private sector, NGOs, local communities, and research and education institutions, were carried out. The following sites have been identified:

- Cambodia: Sihanoukville
- Malaysia: Klang Area
- DPR Korea: Nampo
- Thailand: Chonburi
- Indonesia: Bali
- Vietnam: Danang



## Bataan, Philippines:

### At the Crossroads of Progress... In the Forefront of Preservation



Since the devolution of a number of functions related to environmental and resource management and mounting public pressure, local government units (LGUs) have been increasingly aware of interactions between different human activities and their impacts. The need to develop ways to incorporate environmental programs into development plans and management decisions has been apparent. In spite of this, and considering that sixty percent of the municipalities in the Philippines are coastal areas, few LGUs have an understanding of and capacity in integrated coastal management (ICM).

#### Bataan at the frontier of economic growth

Bataan has the key ingredients to become a new frontier of socioeconomic growth in the 21<sup>st</sup> century. Bataan is a peninsula jutting out of the mouth of Manila Bay, the gateway to the country's political, social and economic center. It has 12 municipalities covering an area of 137,296 ha. Major industries, including petrochemical, garments and electronics, are located in Special Economic and Export Processing Zones. Bataan has an active commercial fishery industry. Aquaculture is another major earner. There are also beach resorts, two national parks and historical markers.

#### Fisheries in trouble

Parallel to the economic development is the continued deterioration of the coastal environment of Bataan, which is the lifeblood of the province. Destruction of upland ecosystems has resulted in sedimentation and siltation, which, together with coastal habitat degradation have become priority environmental concerns of the province. For example, only 120 ha of mangroves remain in the province. There are now only small areas of coral reefs, seagrass beds and seaweeds. Destructive fishing methods and unlicensed fishponds are major problems. All these have important implications on future fishery production. Moreover, fish, oysters and mollusks are already contaminated with pesticides and heavy metals and have shown high levels of toxicity. The Red Tide occurrences have caused deaths and illnesses due to paralytic shellfish poisoning as well as reduced incomes for the fisherfolk.

Increasing solid waste generation and pollutants from land- and sea-based sources have reduced the quality levels of fresh and marine waters, creating tension between fisherfolk and local industries. New approaches towards multiple resource use conflicts, therefore, have to be developed by the local government to sustain the socio-economic development of the province.

#### A step in the right direction

Realizing the growing need to effectively manage its coastal environment, the Provincial Government of Bataan, Philippines decided to have a coastal resource management program, using its own financial resources. This decision eventually resulted in the submission of application to be one of PEMSEA's parallel ICM sites (*see related article*).

The resolution of the Provincial Government of Bataan to commence an ICM program was precipitated by the Executive Session on Coastal Resource Management for the Province of Bataan held in Makati City on 11 October 1999. Local officials of Bataan and top executives from the business community, represented by the petroleum and chemical industries, energy sector and the shipping industry attended this meeting.

Two resource groups from the Coastal Resource Management Project (CRMP) and the GEF/UNDP/IMO Regional Programme were invited to give the participants an overview of the state of coastal resources and the lessons gained from the various coastal management projects.

After the presentation of the two resource groups, the local government of Bataan, headed by Governor Leonardo Roman, together with Mayors Ferrer, Peliglorio and Roxas of the municipalities of Hermosa, Mariveles and Limay, respectively and the business community, spearheaded by Petron, signed a Memorandum of Agreement (MOA). The MOA is a covenant among the parties to support, promote and sustain a comprehensive coastal resource management program for Bataan and make this province a model for environment-friendly coastal communities. The signatories to the MOA also agreed to involve concerned government agencies and promote multi-sectoral partnerships. PEMSEA, for its part, agreed to provide technical assistance to the province in the form of trainings and other capacity-building activities.

# PETRON: An Active Private Sector Partner in Coastal Management



## Newsbriefs

**PETRON Foundation is playing a strong partnership role with the Province of Bataan in implementing integrated coastal management in the area, providing both manpower and financial resources to ensure the success of the programme.**

### Sight the latest site

On 9 December 1999, a team of PEMSEA staff, headed by the Regional Programme Director, Dr. Chua, visited Bataan to assess its application as a parallel ICM site<sup>1</sup>. The site visit was coordinated by Petron Foundation and was arranged in three phases: (1) video presentation about Bataan and the province's environmental concerns; (2) boat ride along the coast of Limay; and (3) evaluation and discussion on future course of action. Present in the

<sup>1</sup> One of the key objectives of PEMSEA is the development of ICM parallel sites to demonstrate the sustainability of ICM in the absence of funding from the Regional Programme. ICM parallel sites, however, will have the benefit of technical support from PEMSEA.

meeting were Governor Leonardo Roman, other local government officials and their staff, representatives of industrial firms, a fishers' association in Bataan and other stakeholders.

The PEMSEA team, together with Mayor Roxas of Limay, Bataan and staff of Petron Foundation conducted an ocular inspection of the coastal communities, industries, ships and fishing boats in Bataan. During the ocular inspection, the mayor also discussed the environmental problems his town and province are facing, highlighting destructive fishing practices, pollution, lack of monitoring facilities and weak enforcement of fishery laws. One important recommendation during the discussion was to ensure that local communities were consulted and involved in the program. In the experience of the locals, this can make or break a project because the absence of social acceptability and community participation hampered previous programs. During the discussion with the local government officials, the PEMSEA staff emphasized that financial support from the LGU and the establishment of a project management office (PMO) to coordinate the different ICM activities were prerequisites for acceptance as an ICM parallel site.



## ICM Training Centers Established in Xiamen and Batangas

**ICM training centers have been established in Batangas, Philippines and in Xiamen, China. The centers are expected to provide services to PEMSEA's future ICM trainings.**

The training center in Xiamen is located within the premises of the Xiamen University. A team of local professionals selected from experienced managers, specialists from the academe and from government was trained to undertake specific training modules. The selected local instructors participated in the Xiamen Demonstration Project and are

competent in the English language. A training module has already been developed and training materials have been prepared. Multimedia materials will be used for increased effectiveness of the course.

The ICM training center in Batangas is also fully operational. A training workshop for local professionals has recently been undertaken. The workshop discussion focused on the major experiences and lessons learned from various activities of the Batangas Bay Demonstration Project.



## Batangas Expands ICM Initiative to Other Coastal Areas in the Province

For the year 2000, Batangas has prioritized environmental protection in its development agenda. Priority activities include the following:

- Establishment of the Municipal Solid Waste Facility and Toxic and Hazardous Waste Facility under the Public-Private Partnership program of PEMSEA
- Operationalization of the Tingloy Redemption Center and Controlled Dumpsite Facility
- Establishment of Solid Waste Management Councils
- Strengthening of Environmental Cooperatives
- Accreditation of the Batangas Marine Laboratory
- Pansipit River Rehabilitation Project
- Regulation of Fish Cages in Taal Lake
- Coral Reefs and Mangrove Rehabilitation Projects in Partnership with the Private Sector, Academe, and NGOs
- Monitoring and Provision of Technical Assistance to the Beneficiaries of the Integrated Social Forestry Projects
- Development of the Provincial Ecology Center
- Strengthening and Expansion of Bay Watch, the Monitoring Program for Batangas Bay
- Preparation of the Environmental Profile of the Whole Province of Batangas
- Adoption and Implementation of the Water-Use Zonation Scheme for Batangas Bay
- Study the Local Regulation of Water Resources

Capitalizing on the success of the ICM demonstration site in Batangas Bay assisted by the GEF Pilot Phase, the Province of Batangas is expanding the ICM programme to cover Balayan Bay Region and in the Maricaban Straits. The expanded ICM program now covers the major coastal areas of the Province.

## Inauguration of New PEMSEA Regional Office Gathers New and Old Partners

A gathering of new and old partners was held during the inauguration of the new PEMSEA Regional Office in Quezon City, Philippines on 20 December 1999 which marked the formal introduction of PEMSEA to the new phase of its GEF-UNDP-IMO partnership. Visitors included ambassadors, senators, representatives from embassies, undersecretaries and members of the academe and NGOs. Undersecretary Mario Roño of the Philippine Department of Environment and Natural Resources (DENR) welcomed the guests and participants to the occasion on behalf of the Philippine Government. He expressed the continued commitment of the host country in providing counterpart support to the programme and encouraged participating countries to work closely with PEMSEA to collectively address the transboundary environmental issues and problems in the region.

Mr. Terence Jones, UNDP-Manila Resident Representative, likewise discussed the critical role that PEMSEA will play in the next five years, particularly on its innovative use of partnerships in providing solutions to complex environmental problems and how these partnerships can assist UNDP's efforts in fulfilling its credo of *sustainable human development*.



Left to right: Philippine DENR Undersecretary Roño, Ms. Cory Guererro, PEMSEA Senior Administrative Officer and Mr. Terence Jones, UNDP-Manila Resident Representative open the new PEMSEA office.

Below are some of the regional conferences and workshops participated in by PEMSEA staff.

Conferences & Workshops

- **IPS-IMO International Conference on Navigational Safety and the Control of Pollution in the Straits of Malacca and Singapore: Funding and Managing International Partnerships. Singapore, 14 to 15 October 1999**

The Institute of Policy Studies (IPS) and the International Maritime Organization conducted a follow-up conference to the 1996 IPS-IMO Conference on the Malacca and Singapore Straits. This year's theme focused on "Navigational Safety and the Control of Pollution in the Straits of Malacca and Singapore: Funding and Managing International Partnerships". The two-day conference, which involved the littoral States, Indonesia, Malaysia and Singapore, other stakeholders, as well as the academia, was held at the Regent Singapore. The Regional Programme Director, Dr. Chua Thia-Eng and the Senior Programme Officer, Mr. Stephen Adrian Ross presented a joint paper entitled "The Marine Electronic Highway: Concepts and Challenges". The conference resulted in the drafting of the recommendations for action on improving the navigational safety and pollution prevention of the Straits of Malacca.

[http://www.ips.org.sg/ac\\_99a.htm](http://www.ips.org.sg/ac_99a.htm)

- **Second Session of the Committee on Environment and Natural Resources Development of the Economic and Social Commission for Asia and the Pacific (ESCAP). Bangkok, Thailand, 13 to 16 October 1999**

The meeting discussed the initiatives of members and associate members in attaining sustainable development in integrating environmental considerations into economic decision making, promoting the sustainable development of energy, land and mineral resources. The Meeting noted the difficulties encountered by the countries in implementing sustainable efforts owing to the lack of capacities and funding support. Thus, the Committee urged the ESCAP to increase its capacity building efforts and assistance in resource mobilization and technology transfer. PEMSEA was represented by Ms. Bresilda Gervacio, PEMSEA Technical Officer.

<http://www.unescap.org/enrd/cenrd/cenrd.htm>

- **Carriage of Ultra Hazardous Cargo by Seas: Regional Implications and Responses. Kuala Lumpur, 18 to 19 October 1999**

Dr. Chua Thia-Eng, Regional Programme Director chaired a session of the Malaysian Institute of Marine Affairs (MIMA) workshop on "Carriage of Ultra Hazardous Cargo by Seas: Regional Implications and Responses" held in Kuala Lumpur from 18 to 19 October 1999. The objective of the workshop was to create awareness on the transport of ultra hazardous radioactive cargo. Green Peace, the Nuclear Research Institute and the IAEA provided detailed presentations on the transport of radioactive materials. The workshop reviewed the relevant IMO international conventions rules and regulations regarding the transport of ultra hazardous cargo and the effectiveness of national and international rules and regulations. Substantive discussions were

held on the issue of damage compensation arising from radioactive contamination due to mishaps during the cargo transits. Japan has 30 tons of recovered plutonium currently in Europe awaiting shipment back to Japan through international waters.

- **OPRC Train-the-Trainer Course, Singapore, 25 to 29 October 1999**

IMO, together with the Maritime and Port Authority of Singapore continues in its effort to build the capacity of the East Asian region in oil spill response, prevention and co-operation. The training was conducted with the goal of replication by the trainors who were trained in the course. The training course used the IMO OPRC model course on Train-the-Trainers. Visits to the Port Operation Command Centre and Singapore Oil Spill Response Centre were incorporated in the training. The training course had participants coming from Brunei Darussalam, Cambodia, Malaysia, Thailand, DPR Korea, R Korea, PR China, Vietnam, Indonesia and the Philippines. The course was organized under the Singapore-IMO Third-Country Training Programme. PEMSEA Training Officer, Ms. Diane Factuar co-ordinated the training activity.

- **Revisiting India's Coastal Regulation Zone Notification: The Workshop on Strategy for Sustainable Development in the Coastal Area. New Delhi, 1 to 3 November 1999**

The workshop was organized by the Ministry of Environment and Forest, together with the British Council and UNDP New Delhi. One main purpose of the workshop was to revisit the experience of other countries and to review the CRZ Notification rule with the advice of international experts. The CRZ Notification limits construction above the 500 m from the high water mark and classifies the coastal zone into four categories. Based on these ecological restriction, certain economic activities were restricted. This restriction created considerable conflicts among various agencies especially tourism, construction and other development agencies. On the other hand, the NGOs wish to maintain the rule to protect the fishermen.

Concerned stakeholders participated in the workshop to discuss the problems in the coastal areas in India, environmental and management concerns and how the coasts should be managed best. International experts, Prof. Peter Burbridge, Prof. Jon Pathick, and Dr. Chua Thia-Eng, PEMSEA Regional Programme Director were also present to assist the group in looking at management options for India's coastal environment.

- **14<sup>th</sup> Meeting of the Coordinating Body for the Seas of East Asia (COBSEA). Bangkok, 23 to 25 November 1999**

The main issues discussed included the South China Sea Project Brief submitted to the GEF for funding. The project proposes the development of a Long-Term Plan for the Implementation of the East Asian Seas Action Plan. A proposal for a Regional Programme of Action for the GPA for the Protection of the Marine

*(continued on page 38)*

# announcements

## Have you attended an ICM Training Conducted by the GEF/UNDP IMO Regional Programme for Marine Pollution Management in the East Asian Seas?

If you have, please communicate with Ms. Diane Factuar ([dfactuar@imo.org.ph](mailto:dfactuar@imo.org.ph)) to participate in a study on the impact of the ICM training course vis-à-vis effectiveness at the field level. PEMSEA is currently evaluating the impacts of the Integrated Coastal Management (ICM) training course conducted during the GEF Pilot Phase. The ICM training involved a total of 85 trainees from 10 participating countries; most of them are professionals involved in coastal management within the East Asian Seas region. Survey questionnaire have been sent out to 67 ICM training participants. If you have not received a copy, please communicate with Ms. Factuar.

## PEMSEA Training Schedule

- **Chemical Spill Prevention and Port Audit Training Workshop**  
10-15 January 2000, Philippine Port Authority (PPA) Training Center, Manila, Philippines  
Sponsored by PEMSEA, IMO, and PPA
- **Chemical Spill Prevention and Port Audit Training Workshop**  
24-29 January 2000, Port Klang, Malaysia  
Sponsored by PEMSEA, IMO, and the Malaysian Port Klang Authority
- **Regional Training Course on the Development, Implementation and Management of Coastal and Marine Environmental Projects**  
3-29 April 2000, Manila, Philippines and Xiamen, China

## Conferences...

(from page 37)

Environment was also discussed. The meeting was attended by participants from Australia, China, Republic of Korea, Singapore and Thailand. Representatives from the United Nations Environment Programme and other concerned organizations were also present. The Regional Programme Director, Dr. Chua Thia-Eng participated in the Meeting, on behalf of IMO and PEMSEA.

<http://www.unep.org/unep/regoffs/roap/easrcu/14COBSEA/14COBSEA.htm>

- **Regional Technical Assistance for Capacity Building for Implementation of the Kyoto Protocol (KP) and the Clean Development Mechanism (CDM). Bangkok, 12 to 14 December 1999**

The workshop brought together participants from the Asian region with a number of leading researchers from both developed and developing

## New PEMSEA Publications

The following were published recently by PEMSEA :

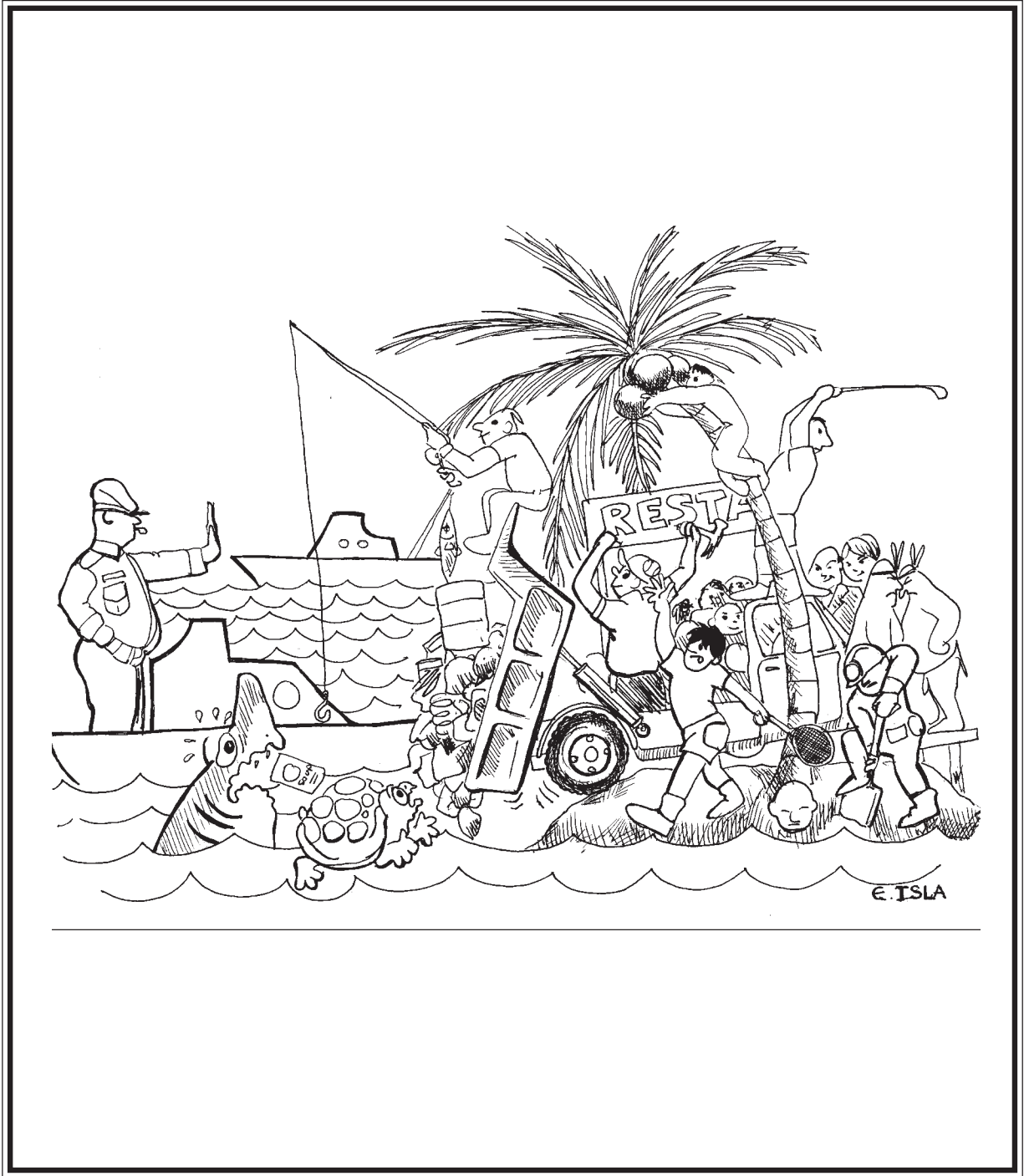
- **Marine Pollution Management in the Malacca/Singapore Straits: Lessons Learned.** *MPP-EAS/Info/99/196, 168 p.*
- **Malacca Straits: Refined Risk Assessment.** *PEMSEA Technical Report 1.*
- **Water Use Zoning for the Sustainable Development of the Batangas Bay, Philippines.** *PEMSEA Technical Report No. 3, 50 p.*
- **Challenges and Opportunities in Managing Pollution in the East Asian Seas.** *PEMSEA Conference Proceedings 1.*

## PEMSEA Upcoming Publications

- **Total Economic Valuation: Coastal and Marine Resources in the Malacca Straits.** *PEMSEA Technical Report 2.*
- **Manual on Strategies, Tools and Techniques for Implementing International Conventions on Marine Pollution in the East Asian Seas.** *MPP-EAS Technical Report 26.*

countries to analyse the issues to be discussed in the fifth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 5) and beyond. Discussion of the issues centered on the three co-operative mechanisms found in the Kyoto Protocol, e.g joint implementation (Article 6), Clean Development Mechanism (Article 12) and emissions trading (Article 17). At the end of the workshop, participants unanimously requested the holding of national, subregional and regional workshops to build regional capacity on Clean Development Mechanisms. PEMSEA Legal Officer, Ma Socorro Manguiat participated in the Workshop.





# FACTS AND FIGURES

## 1 Batangas

- commercial fishing vs. shipping
- navigation vs. tourism & recreation
- industrial waste vs. fishing
- tourism vs. fishing

Conflict Management Tool:  
Water Use Zoning

## 2 Malacca Straits

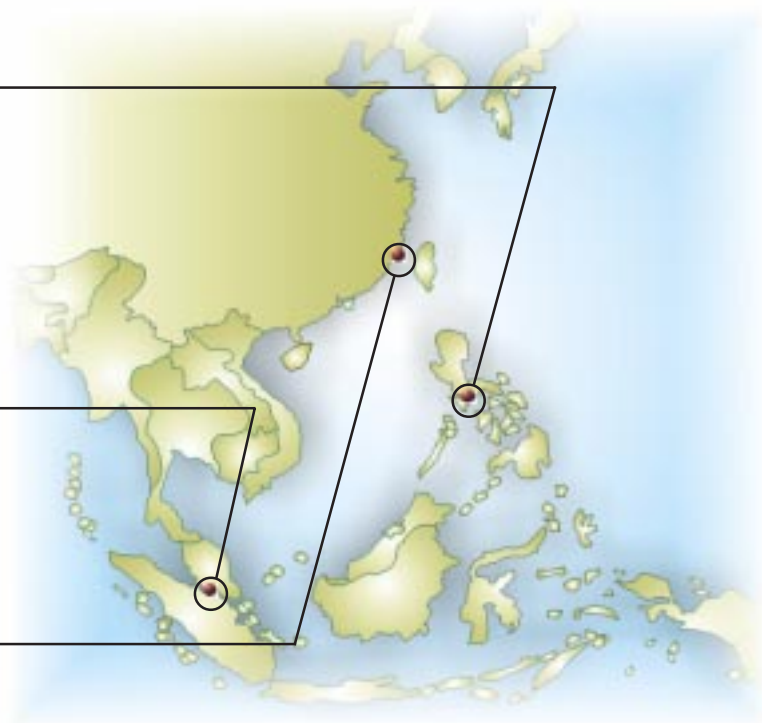
- navigation vs. safety

Conflict Management Tool:  
Vessel Traffic Scheme (VTS)

## 3 Xiamen

- port activities vs. fisheries
- coastal reclamation vs. habitat conservation
- waste disposal vs. protection of public health
- navigation vs. biodiversity conservation

Conflict Management Tool:  
Water Use Zoning



### Conflict Management in the three PEMSEA Demonstration Sites

*Tropical Coasts* is published to stimulate exchange of information and sharing of experiences and ideas with respect to environmental protection and the management of coastal and marine areas. This newsletter is published twice a year and distributed free of charge to individuals and relevant organizations in the developing countries. Readers are strongly encouraged to send their contributed articles to:

#### The Executive Editor

P.O. Box 2502  
Quezon City 1165  
Metro Manila, Philippines

**“Transparency is an operational feature of the governance of ecology. All parties to a decision should be informed of the process and made to understand the bases of solid decisions.”**

**Victor O. Ramos**, Secretary, Department of Environment and Natural Resources, Philippines (1994-1998).

**Executive Editor:**  
**Editors:**  
**Issue Editor:**  
**Contributors:**

**Chua Thia-Eng**  
**Olof Linden and Edgardo D. Gomez**  
**Ingrid Rosalie L. Gorre**  
**Ingrid Rosalie L. Gorre**  
**Florisa C. Almodiel, Jennifer Aldrich,**  
**Maria Lourdes Baylon,**  
**Maria Socorro Z. Manguiat and**  
**Maria Corazon M. Ebarvia**  
**Tricia R. Javier**  
**Leo Rex C. Cayaban**  
**Jonel P. Dulay**

**Managing Editor:**  
**Editorial Assistant:**  
**Design, Layout and DTP:**