

Coastal Waters of the World

Trends, Threats, and Strategies

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Foreword by Stephen Olsen

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Human beings are altering coastal ecosystems at an accelerating pace. Much of this change is reducing the long-term capacity of these systems to provide an adequate quality of life and produce renewable wealth. Although the pace of degradation varies greatly and there are a few, small-scale instances of recovery and restoration, the planetary trends are downwards. Coastal regions have emerged as the primary human habitat containing, on less than 10 percent of the non-polar land space, half of the world's people. By 2030, these coastal lands are expected to contain three-quarters of a far larger human population. While the numbers of coast people and the intensity of their activities spirals upward, in the vast majority of the world's coastal regions water quality is declining, fresh water flows to estuaries are being reduced, fish stocks are collapsing, and habitat critical to both people and fellow species is being destroyed. Conflicts among different competing groups and types of activities are becoming more intense. There is evidence that disease threats and toxic blooms of marine plankton are increasing. If human-induced climate change plays out as the great majority of today's scientists believe, by 2050 the impacts of the trends we can document today will be overlaid with region-wide shifts in rainfall, a greater frequency of rising storms, and a rising sea level sufficient to threaten many low-lying, heavily populated coasts.

The rapidity of change and the knowledge that we are now as a species causing measurable changes to the planetary ecosystem has produced a concept that now peppers policy documents, mission statements and speeches at international conferences. This is "sustainable development." The Bruntland Commission has suggested that sustainable development requires patterns and intensities of resource use today that do not compromise the ability of future generations to meet their needs. It means not eating our seed corn. It means reducing the gargantuan appetite for resource consumption in today's wealthy nations while reducing population growth in poor nations. Sustainable development is widely accepted as the central objective for programs of many stripes in the developing world but interestingly, is a term and an idea that has little currency among the public or government agencies in such wealthy nations as the United States.

This book suggests that we need to consider a global agenda for coasts as a response to their accelerating transformation. This requires that we examine the possible linkages between coastal management and the concept of sustainability. Is coastal management an endeavor that can, or should, lead to defining and promoting sustainable levels of development? It is difficult to say that you are not in favor of sustainable modes of behavior or not in favor of creating a sustainable balance between men and the coastal ecosystems most of us inhabit. But if we accept sustainable patterns of utilization as the objective for coastal management, then what does this in tangible terms imply for those who wish to improve how we govern coastal regions, and thereby attempt to strike a sustainable balance among the need to develop and the need to conserve our own primary habitat?

First, we must recognize that thus far, coastal management projects and programs have not been an attempt to define what is sustainable and then set about achieving it. The coastal zone management programs now being implemented by many coastal states in the U.S. have primarily been an attempt to bring order to this crowded strip of land and water. The objective has been to forestall needless degradation and negotiate conflicts, to set priorities among competing activities in specific places, and to mitigate some of the adverse impacts of development. Such efforts have made a positive difference, and this model of coastal management has been adapted to some developing nations. Bringing order and a measure of predictability to the process of change can be an initial step towards sustainability but it is no more than a first step in a long journey. More recently, many coastal management initiatives have adopted an ecosystem-based approach that addressed the full suite of social, economic and environmental issues in watersheds and the adjoining coastal sea. These are much more complex undertakings that require reexamining the nature of development itself and engaging in a long-term process of incremental planning and action. In these integrated coastal management programs, struggling to make the goal of sustainable development operational lies at the heart of the endeavor.

Why is it so difficult to think about how to define and how to achieve sustainable development for specific coastal places when so many are eager to endorse the concept? Part of the response is that those living in the so-called “developed” world assume that the big problems lie somewhere else—mostly in those hot developing countries. We too readily forget that the ones consuming the resources, be it rain forest timber or the fossil fuels that produce global warming, and the market demand that results in all those collapsing fish stocks and the bulldozing of wetlands to make shrimp ponds, are in large part avid consumers of the “developed” world. Much of the problem also lies in the destructive practices of the poor—symbolized by those who fish with dynamite— people

that feel that they have few alternatives and too often are marginalized by the contemporary development process.

There have been many instances in history when the idea that the great majority of people carried in their heads motivated societies to strive for sustainable agriculture, sustainable forestry, sustainable hunting and fishing, sustainable trade and institutions that supported these objectives. Unfortunately, the dominant paradigm today creates a context in which the disincentives to seriously thinking about sustainable development are overwhelming. At present, few professionals can survive long if they seriously attempted to implement strategies by which sustainable patterns of behavior and resource utilization might be achieved. To a professional resource manager, particularly in developing nations where the pace of coastal transformation is most rapid, these disincentives manifest themselves as follows:

- The incentive structure in both business and government does not reward or encourage those who pursue sustainable levels of development; rewards in business are for quantitative growth and for profits, in government for quick and tangible results.
- The time horizons for the elected officials that so strongly influence development policy are short; in many developing nations the tenure of high level officials is measured in months, not years, and priorities shift from administration to administration.
- There are no accepted techniques for calculating net long-term benefits.
- The people who make decisions affecting how natural resources are utilized in central government are seldom directly impacted by their decisions or the projects they launch. If the resource conservation or resource development actions that they design and fund fail or produce unpredicted and undesired results, the bureaucrats involved are rarely held accountable.
- The development planning function in most nations is weak.
- Central government control over finances and decision-making means that local governments have little authority. Local initiative and action too easily is perceived as a threat to centralized power and authority.

The climate for seriously thinking and actively pursuing sustainable levels of development is not positive.

If we take the objective of sustainable development seriously, how might we begin? The experience so far in attempting to manage coastal ecosystems should have taught us to think strategically and to adopt an issue-driven, pragmatic approach to the problems we attempt to address. If we accept that the goal of coastal management is the sustained quality of life of the majority of humanity that lives along coasts, then an international agenda requires that we work to provide (1) a healthy life support system, and (2) an effective, fair, transparent and participatory system for making societal decisions. In other words, a healthy environment and a good government system. The emphasis is upon the quality of development not the quantity of growth as illustrated by GNP. Experience in both the developed and developing world suggests that the goals of environmental quality and equitable, effective governance must be intimately linked if they are to earn popular support. Coastal managers should not focus only on creating preserves of nature in her undisturbed state, or programs that protect biodiversity. Nor should they only engage in the development of the infrastructure that provides clean drinking water, sewage disposal, roads and employment. We need coherent programs that address both the needs for environmental protection and development simultaneously. The glue that should tie these packages together is a system of governance that provides the people of each place with a measure of effective and participatory governance. With this comes a sense of control, a sense of responsibility, and a reason for hope in the future.

We must also insert time into the equation. The chiefs of the Iroquois Indians were taught to make decisions that would benefit the future seventh generation. Such concepts are unfortunately beyond us. I would suggest that as a first step we attempt, if we're going to take on the sustainability concept, to adopt as a criteria the selection of those actions that will not reduce quality of life 50 years from now. This translates into our lifetimes and those of our children. Even this would be extremely radical.

The experience of the coastal management programs now being implemented in a number of developing nations suggest that we should bring greater order and equity to the process of development as we work towards more sustainable forms of coastal use. One promising strategy calls for working on two tracks simultaneously: with central government (Track one) and at the community level (Track two). In the great majority of developing nations, central government holds unto itself most of the power and local government is therefore weak or non-existent. Yet the demand for effective governance is often greatest and the chances for tangible progress highest, at the local level. A focus on

community-based coastal management strategies enables us to close the loop between planning and implementation frequently and early on in the process of formulating management strategies. When working at a small scale, it is often easier to resolve conflicts posed by overlapping agency jurisdictions. It promotes reality testing among planners and researchers. The problems become real and tangible and the people affected by the success or failure of the management strategies that emerge become individuals we know rather than a faceless mass. If such trials prove successful, we will accomplish several very important things. We will begin to build a constituency for the endeavor. Experience in developed and developing nations alike demonstrates that without an adequate constituency is not sustainable. To build constituencies we need places that we can point to and say, "Look, here improved governance is maintaining even improving the health of the ecosystem and the peoples' quality of life. It can be done and it is worth the effort." Today such examples are rare.

But coastal managers must also work with central government to bring order to the process of change. Degradation of environmental quality, and therefore in the quality of life of people in developing nations, is being caused by two major forces. One is the action of people living in poverty who have few choices and often cannot plan for the future, and the other by the looting of environmental assets by the rich and powerful. In many instances the latter is more important. Efforts with central government should be directed at changing the policies that encourage both sources of unsustainable behavior. Central government must also be persuaded to support local level governance and the process of discovery at the community level that can teach us all how in practical terms to achieve an ethic of stewardship.

If coastal management is to become a vehicle for progressing towards more sustainable forms of coastal development and conservation we must recognize that we have a great deal to learn and that learning must progress quickly. The need is urgent and we have a long way to go.

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