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Donor evaluations of ICM initiatives: what can be learned from them?

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Abstract

The experience of 19 donor agencies and international organizations with evaluation of ICM initiatives is surveyed to analyze the differences in the evaluative purposes and methodologies and their relevance to a “learning-based approach” to ICM. We group evaluation into three broad categories: performance evaluation, management capacity assessment and outcomes evaluation. Performance evaluations address the quality of project implementation, and the degree to which project goals are achieved. Management capacity assessments are conducted to determine the adequacy of management structures and governance processes as these relate to generally accepted international standards and experience. Outcome assessments evaluate the impacts of a coastal management initiative upon coastal resources and the associated human society(s). The survey shows that most donor evaluations emphasize performance evaluation, but usually combine elements of all three types. There is strong interest among international donors investing in coastal management in learning from and advancing coastal management practice. If donors are to maximize learning and commit to an adaptive approach to ICM they will need to modify the manner in which project monitoring and evaluations are conducted, analyzed and distributed. A number of modifications to current approaches to evaluation are suggested in the paper. © 1999 Published by Elsevier Science Ltd. All rights reserved.

1. Introduction

The concept of an “integrated” approach to coastal management has been influential for at least three decades. The United Nations Conference on Environment and

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Development (UNCED) in Rio in 1992 made “integrated coastal management” a central organizing concept in ocean and coastal management [1–3]. In the early 1980s, there was little accumulated experience in the application of contemporary coastal management principles and practice in the developing nations. Today integrated coastal management is widespread, with over 180 programs, projects and feasibility studies in 90 coastal nations [4]. These initiatives vary in the coastal issues they address, in the management techniques used, the legal and administrative systems in which they operate and the social, political and environmental contexts that shape their progress. The majority of the ICM initiatives in Asia, Africa and Latin America have been funded wholly or in part by international donor agencies.

In spite of this variability there is a growing awareness among ICM practitioners, donor officials and academics that ICM does (or should) constitute a coherent set of management principles. This is manifest in the proliferation of donor guidelines [5–9], journals, books, newsletters, web pages, and academic programs focusing on all the aspects of ICM. The results of a recent international survey of capacity building for ICM, for example, identified 40 University courses, more than 60 research centers, and about two dozen specialized books and manuals, 40 specialized ICM web sites, and two dozen periodic specialized conferences, workshops, and seminars per year [10].

So far, however, there is little communication among projects or assessments of how lessons learned from the ongoing or past management exercises may be applied elsewhere. The result is an inefficient fragmentation of coastal management effort, and unnecessary and costly duplication of research. The number of coastal management initiatives that succeed in making the transition from planning to implementation is small, and this may be attributed in part to this fragmentation of effort and inefficiency in the process of learning from experience.

At its 1996 annual meeting, the International Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) identified the following “priority emerging issue” [11]:

There is an urgent need for an accepted [ICM] evaluation methodology... When an evaluative framework is in place it will be possible to document trends, identify their likely causes and objectively estimate the relative contributions of ICM programs to the observed social and environmental change.

Later that year, the idea of promoting a common approach to learning from ICM initiatives was discussed at a conference in Xiamen, China. Three premises shaped the discussion at the Xiamen conference [12]:

1. *There is general consensus on the purposes of ICM and its basic component parts.*
2. *Integrated coastal management is not nation-specific, and lessons learned in different settings can be applied and modified to initiatives elsewhere.*
3. *In many (if not most) nations, individuals who significantly affect the preparation or implementation of the ICM program believe that the program might benefit from the relevant lessons learned in other nations.*

In October 1996, the idea of using a common evaluative framework as a vehicle for learning was presented at an informal meeting in Paris organized by the United Nations Development Program (UNDP) and the Swedish International Development Agency (Sida), and hosted by the Intergovernmental Oceanographic Commission (IOC). At the meeting, representatives of 15 bilateral and multilateral donors and interested agencies expressed interest in the concept and agreed to cooperate in the preparation and testing of the sets of indicators and common methodologies for tracking the progress of ICM initiatives and promoting a learning-based approach to project design and implementation. In addition, the group agreed to collaborate in a survey of the existing evaluative methods and the major questions that ICM donors would like to see addressed by a common evaluative methodology. This survey was subsequently funded by the UNDP through its Strategic Initiative for Ocean and Coastal Area Management Program (SIOCAM).

The survey was organized around several broad questions:

1. How do donor agencies evaluate ICM initiatives? To what extent do donor agencies use standardized approaches?
2. What are the major questions that are being posed in evaluations? What decisions do they inform?
3. How do these evaluations contribute to “learning” about the theory and the practice of ICM?

This paper reports the results of the survey, and draws conclusions for advancing a learning-based approach to the evaluation and self-assessment of coastal management projects.

2. Donor survey method

The survey was based on a written questionnaire, written and email correspondence, and in-person or telephonic interviews of the representatives from 19 donor agencies and international organizations.¹ In addition, a literature review was conducted of the ICM evaluation and the pressure-state-response (PSR) framework for developing environmental indicators as it has been applied to coastal management.

The questionnaire was prepared by Dr. Kem Lowry and Cheryl Anderson, University of Hawaii and Dr. Peter Burbridge and Sarah Humphrey, University of Newcastle. It included questions on coastal management activities (e.g. type of projects, basis for the selection of projects); current practices in monitoring and evaluation

¹ Caisse Francaise de Developpement; Danish Cooperation for Environment and Development; Department for International Development (UK); Finnish Ministry of Foreign Affairs, German Development Agency (GTZ); European Commission; Irish Aid; The World Conservation Union (IUCN); Directorate for Development Cooperation (Norway); Plan Bleu; Swedish International Development Agency; World Wide Fund for Nature (WWF); World Bank; Global Environment Facility; United States Environmental Protection Agency; National Oceanographic and Atmospheric Administration (U.S.); Asian Development Bank; Inter-American Development Bank; United Nations Development Program.

(procedures for monitoring and evaluation, purposes and uses of evaluation, topics addressed by evaluation, and evaluative criteria or indicators); methods to improve evaluations; and, areas that should ideally be addressed by a common approach to learning from experience. A total of nine completed questionnaires were analyzed. The low number of fully completed questionnaires reflects the fact that many donors are in the process of developing evaluative procedures and are as yet in the initial stages of implementing their first ICM projects.

3. A typology of approaches to ICM evaluation

The concept of evaluation is used in a variety of ways. Patton [13] defines evaluation as “the systematic collection of information about the activities, characteristics and outcomes of programs to make judgments about the program, improve program effectiveness, and/or inform decisions about future programming”. Most evaluations also involve comparisons between the program under examination and implicit or explicit standards, comparisons between the current conditions and pre-program conditions, or comparisons with the attributes of similar groups or individuals who did not receive or were not subject to the program.

Evaluations are conducted to insure program accountability, detect management errors, provide information to inform decisions about whether to expand, contract, terminate or modify a program, or test innovative program interventions. They are also conducted to respond to legal requirements and to provide information for program advocacy. Evaluations can be conducted at various points in the life cycle of a program. Those conducted at early or intermediate stages are frequently referred to as “formative” evaluations because the emphasis is on program improvement. Those conducted after a program has been in place for some time are frequently referred to as “summative evaluations”. Patton [13] lists some 58 alternative ways to focus an evaluation. A selection of the many evaluation types and the defining questions or approach that characterize each type is shown in Table 1.

The evaluation of international donor-funded projects draws from these many types of evaluation. To determine the primary focus or emphasis in the evaluations of ICM initiatives we examined the evaluative questions that were raised by donor agencies. Evaluative questions contain the explicit or implicit criteria by which judgments are being made about programs. Our analysis suggests that three major types of evaluative analysis dominate ICM evaluative practice: performance evaluation, management capacity assessment, and outcomes evaluation.² Table 2 summarizes the primary evaluative themes within the three types of the evaluations reviewed in the survey.

² Because there is some inconsistency in the use of concepts in the evaluation literature, these labels have to be used with some caution. Patton [13] for example, identifies outcomes evaluation as one focus. His “goals-based focus” and “implementation focus” combined is closest to “performance assessment” as we are using the term. His “accreditation focus”, “inputs focus” and “context focus” combined are similar to what we are calling “management capacity” in this analysis. See also Scriven, *Evaluation Thesaurus* [25].

Table 1
Selected types of evaluation

Focus or type of evaluation	Defining questions or approach
Accreditation focus	Does the program meet minimum standards for accreditation or licensing?
Causal focus	Use rigorous social science methods to determine the relationship between the program and resulting outcomes
Cluster evaluation	Synthesize overarching lessons and/or impacts from a number of projects within a common initiative or framework
Collaborative approach	Evaluators and intended users work together on the evaluation
Comparative focus	How do two or more programs rank on specific indicators, outcomes, or criteria.
Compliance focus	Are rules and regulations being followed?
Context focus	What is the environment within which the program operates politically, socially, economically, culturally, and scientifically? How does this context affect program effectiveness?
Effectiveness focus	To what extent is the program effective in attaining its goals? How can the program be more effective?
Efficiency focus	Can inputs be reduced and still produce the same level of output or can greater output be obtained with no increase in inputs?
Effort focus	What are the inputs into the program in terms of the number of personnel staff/client ratios, and other descriptors of the levels of activity and effort in the program?
Formative Evaluation	How can the program be improved?
Goals-based focus	To what extent have program goals been attained?
Implementation focus	To what extent was the program implemented as designed? What issues surfaced during implementation that need attention in the future?
Inputs focus	What resources (money, staff, facilities, technology, etc.) are available and/or necessary?
Logical Frameworks	Specify goals, purposes, outputs, and activities, and connecting assumptions/specifying indicators for each, and the means of verification
Mission	To what extent is the program or organization achieving its overall mission? How well do outcomes of departments or programs within an agency support the overall mission?
Outcomes evaluation	To what extent are desired client/participant outcomes being attained? What are the effects of the program on clients, participants or environmental quality?
Participatory evaluation	Intended users, usually including program participants and/or staff, are directly involved in the evaluation.
Summative evaluation	Should the program be continued? If so, at what level? What is the overall merit and worth of the program? What are the program's impacts and the likely causal relationships among program activities and observed outputs and outcomes.

Source: [13, pp. 192–194].

3.1. Performance evaluation

3.1.1. Purposes and methods

Performance evaluations, as defined in this study, address two topics: (1) the quality of project implementation, and (2) the degree to which the project goals are achieved.

Table 2

Summary of primary evaluative themes and coastal management evaluations and monitoring procedures reviewed

Evaluation ^a	Evaluation type	Evaluative themes/questions
External Evaluation of the Guinea Bissau Program by IUCN	Performance evaluation	Relevance (to the agency's own goals; to the national policy objectives and obligations; to international objectives; and with respect to significance of issues to be addressed and replicability) Efficiency
Review of phase I of the Tanga Coastal Zone Conservation and Development Program (Tanzania) funded by Irish Aid.		
Mid-term review of the Mecufi Coastal Zone Management project, Mozambique (1996) funded by NORAD.		Funding and expenditure
Review of the WWF's Bazuruto Archipelago Conservation Master Plan (1994).		Project design and implementation
Final evaluation of USAID's coastal management project in Ecuador.		Program administration and effort (inputs into the program, e.g. number of personnel, technical assistance provided, level of activity and effort in the program)
UNDP/GEF tripartite review process		Process and outputs (extent to which objectives have been achieved measured by outputs)
World Bank evaluation of the Mediterranean Technical Assistance program (METAP), 1997, nine projects in five countries	Management capacity assessment	Sustainability, measured in various ways Policy formulation
Final evaluations of UNDP/GEF funded projects in Patagonia, Cuba, and Belize		Human capacity
National Estuary Program Review Process, USEPA		Government commitment, other stakeholder interest
Office of the Ocean and Coastal Resources Management (OCRM) Section 312 Evaluations of State programs, NOAA		Participatory planning, decision-making and management Institutional coordination and capacity
Sida/SAREC assessment of the implementation of the Arusha Resolution, East Africa region, 1996		Institutional structure Public education and awareness
Inter-American Development Bank, Coastal Watch Program		Use of science information Clear roles and responsibilities Policy framework/legislative mechanisms Activities to address issues Best practices Conflict resolution

Table 2 (continued)

Evaluation ^a	Evaluation type	Evaluative themes/questions
		Monitoring and evaluation Assessment of conditions Traditional attitudes, uses and rights Transfer of knowledge/experience Public disclosure
Asian Development Bank, economic evaluation of ADB projects	Outcomes assessment	Socioeconomic impact: quality of life, economic development and poverty reduction
USEPA, initiative on outcomes monitoring		Environmental impact
Project performance monitoring, USAID		
Assessment of the effectiveness of the federal Coastal Zone Management Act, NOAA		

^aMany evaluations contained elements of more than one, or all three evaluation types. The evaluations are listed here in categories of what appeared to be the primary evaluative focus.

In general, implementation assessments are made to insure that projects or programs are being implemented as designed and to account for departures from planned management strategies. Goal achievement assessments address issues of accountability and the effectiveness of the strategies selected to reach specific project objectives. The primary clients for implementation assessments are usually directly involved in the administration of a given project such as project managers and their supervisors in the donor agency. The primary clients for goal achievement evaluations may include legislators and higher level officials in the donor agency.

Goal achievement studies are perhaps the most familiar and common approach in assessing the effectiveness of projects or programs. Here program or project “success” is evaluated in terms of the degree to which its goals are achieved. Program goals stand as the source of evaluative criteria. This approach was pioneered in the education research and given particular currency by an early book by Suchman [14] on evaluating public health programs.

The attractiveness of the goal-achievement approach to evaluation is its apparent simplicity and directness. We assume that planners and managers should be accountable. Evaluating programs in terms of the goals set for them by planners and policy-makers appears an obvious way of assessing accountability. The goal achievement approach need not focus exclusively on program outputs (number and quality of reports, meetings, people trained, plans prepared and formally adopted). It can involve establishing hierarchies of goal statements so that managers are able to monitor program progress and evaluators can determine where goals were unmet. Goals and objectives are often stated in quantitative terms to facilitate monitoring and promote the objectivity of judgments on performance.

Management-by-objectives, logical framework analysis (LFA), and planning, programming and budgeting systems are the branches of the intellectual tree for which the goal-achievement approach to evaluation is also a part. LFA is a monitoring tool frequently used to gauge project effectiveness and internal logic by linking objectives, controlling factors, and expected outcomes; it is a central feature of the Irish Aid Tanga Program and WWF's Bazuruto Archipelago project design, management, and appraisal.

Conducting a goal-achievement study requires, at a minimum, identifying the program (or project) goals, elucidating the program's theory of action, choosing appropriate indicators to measure goal achievement, collecting data on those indicators, and developing research designs to show how the project activities are related to goal achievement. This type of evaluation requires a set of questions that may focus on the financial resources and personnel available for implementation, whether the program is being implemented as designed, and the degree to which activities are consistent with the strategy. To answer such questions, those conducting implementation assessments usually rely on interviews of key informants, observations and reviews of program documents.

3.1.2. Survey observations

Experience with coastal management evaluation as revealed by the survey questionnaire, interviews and a review of available documents makes it clear that performance evaluation is the dominant mode of project evaluation conducted by international donors. Table 3 summarizes the themes and questions of the performance evaluations surveyed. Performance-based monitoring and evaluation provides a mechanism by which those that fund coastal management can maintain their individual standards of accountability and quality control, and it assists funders in making decisions on the continuation, termination, modification or replication of projects. The focus is upon whether the outputs that are called for by the project design have been, or are likely to be, achieved.

In response to these limitations, some projects sponsored by international donors have adopted an internal self-assessment process that applies the principles of adaptive management to goal attainment. These may be the annual events at which the staff and selected beneficiaries, stakeholder representatives and/or representatives of government come together to review the progress as this relates to the project's objectives and strategies. The conclusions typically lead to program adjustments and may instigate revisions to the project's "official" objectives and strategies (see for example [15]).

Although focusing on the stated program goals is a useful place to begin an evaluation, the goal achievement approach has obvious weaknesses. First, it assumes that plans and programs are based on well-understood management concepts and technologies with predictable, measurable outcome. While some programs and projects in health and education are based on the intervention strategies that are well tested, in coastal management most strategies are at least partly experimental. In coastal management projects, it is possible to indicate preferred types of outcome, but difficult to specify in detail as to how many people, for example, will change

Table 3
Performance evaluation: themes and questions

Theme	Question
Project design and implementation	Is the project being implemented as designed? What departures from planned management strategies have occurred and why?
Funding and expenditure	Are funds spent according to work plans and by the right procedures? How would the environmental measures and recommendation proposed in the program be financed? Is the government or local authority raising funds for financing environmental expenditures related to the program? What are the sources of funding? Are funds adequate to support activities throughout planning and implementation?
Program administration	Is program administration and personnel appropriate to the objectives? Is the technical expertise of the staff adequate?
Relevance	Does the program address relevant issues? Are the program's objectives and intended results realistic and relevant? Do the objectives and activities fit within the partners' policies? Were the main economic activities and social issues in the program area incorporated in the program in an adequate way? To what degree were relevant environmental issues incorporated into the program? Does the program address adequately marine pollution and associated effects and the state of coastal ecosystems?
Efficiency	Do program impacts appear reasonable for the amount of money and effort spent on the program? Is the project implemented efficiently to meet the objectives and achieve the outputs effectively and to create the impacts envisaged?
Outputs	Was the program successful as compared to its objectives? What actions are being implemented? Have planned results been achieved?

their attitudes toward the mangrove cutting after being exposed to an education program, or change their fishing methods because of new regulations or livelihood options.

Second, the goal achievement approach is insufficiently sensitive to the realities of program planning and management. Programs are sometimes developed because there are funds available to deal with some problem or opportunity. Mission statements, goals and objectives may be prepared as part of the formal request for funds,

but have to be abandoned or modified as program implementation begins and the nature of the problem is better understood. In the best of circumstances, new, more realistic goals are developed with new strategies as to how the progress towards these objectives will be achieved. The “official” goals and strategies of the project, however, may remain unchanged. The goal achievement approach may be an impediment to the experimentation and adaptation that is a central characteristic of coastal management in the new program settings.

For example, logical frameworks can become a strait-jacket for those implementing projects since modifying the logical framework in response to either experience gained or significant changes while executing individual projects is a bureaucratically difficult undertaking. The problem is not inherent to the use of logical frameworks but rather how they are applied to the implementation of projects. They require the specification of objectives and the strategies with which they will begin a project when very little is known. Easily, they become an impediment to adaptive learning.

Finally, the goal achievement approach de-emphasizes or ignores the forces that originally shaped a project's goals. Who set the program goals? Whose interests do they represent? Whose interests are served by making program goals the exclusive or even dominant organizing perspective for evaluation? Are “official” program goals really relevant to what is going on in the program?

3.2. Management capacity assessment

3.2.1. Purposes and methods

Management capacity assessments, as defined here, are conducted to determine the adequacy of the project or program design including management structures and governance processes as these relate to generally accepted international standards and experience. The purposes are generally to find ways to improve program design and implementation, and to make adjustments to the internal workings of a project or program and to the coastal management strategies and practices that the project or program is promoting. The clients for management capacity assessments are typically program managers seeking to strengthen the program, international donor representatives trying to identify strategic leverage points in order to optimize their investments in the program and, on occasion, significant program stakeholders, such as environmental groups or tourism developers, concerned about some program component.

The evaluative focus is on all aspects of management structures and processes including the adequacy of legal mandates, the geographic and substantive scope of the management program, the adequacy of policy tools to accomplish program goals, the intensity of regulatory authority, the quality of technical analysis, the ability to detect non-compliance with regulatory mechanisms, staff resources, inter-agency collaborative arrangements, etc. Evaluations that emphasize management capacity will rely heavily on evaluative questions that seek to identify strengths and weaknesses in individual project and program strategies. Such questions can provide the information program managers need in order to make program adjustments to better align objectives with program structure and activities.

The development of a capacity assessment involves a number of steps: (1) getting agreement about the purposes of the assessment; (2) identifying key attributes of successful programs that will be used as a basis for analysis; and (3) an identification of key questions or indicators associated with each attribute.

Evaluators should use a management template or set of explicit norms of good management to guide capacity assessment. To get program information evaluators interview key informants, review program documents, and observe program activities. They compare the program information they gather to the standards of “good practice” in coastal management and to their own conceptions of what is possible and desirable in a particular management context. Professional experience and personal judgment frequently play an important role in this type of evaluation. This approach is similar to the U.S. Office of Ocean and Coastal Resources Management (OCRM) Section 312 review procedures for the coastal zone management programs implemented by individual states.

Survey observations. While performance evaluation is the primary focus of the current monitoring and evaluation of coastal management projects funded by donors, the greatest number and diversity of questions compiled in the survey relate to management capacity assessment. The evaluative emphasis on management capacity themes reflects the widely shared perception that lack of management capacity and implementation problems are the primary factors limiting progress towards effective coastal management. It also reflects the recognition that the primary need for “learning” and remediation is program or project-specific. Generally, this evaluative emphasis promotes “instrumental” learning: “a cumulative improvement in the performance of a complex task through the ongoing detection and correction of errors in performance in such a way as to yield what is often called a “learning curve” ” [16]. In a complex enterprise such as coastal management, the “errors” to be detected usually have to do with the insuring that management resources and capacities are matched to tasks and that program management strategies are implemented correctly. “Correct implementation” invariably involves skillful adaptation rather than faithful allegiance to a planning “blueprint”.

Many of the evaluations reviewed in the survey incorporate elements of a management capacity assessment. Table 4 lists questions that are being asked by donors to gauge management capacity. At present, such assessments are based on the descriptive information on programs gathered by the evaluators. Very rarely, however, are the judgments made by evaluators linked to explicit standards against which capacity is measured. Building a consensus on the conclusions reached by different evaluators is hampered by the lack of an agreed-upon conceptual framework. The sets of capacity assessment questions we reviewed are usually replete with tacit understandings (e.g. more stakeholder participation is better participation; inter-agency integration — both vertical and horizontal — is better than single-agency approaches), but an explicit framework is lacking. In addition, assessing capacity involves a good deal of individual judgment. Hence, different observers may reach different conclusions about the ‘management capacity’ of the same program.

Table 4
Management capacity assessment: themes and questions^a

Theme	Question
Policy formulation	<p>Have relevant policies been established to enhance and promote coastal management?</p> <p>Which policy tools for coastal management have been utilized during the preparation of the program (economic instruments, regulatory instruments, procedural instruments)?</p>
Institutional coordination and capacity	<p>Are mechanisms for coordination and cooperation among sector agencies developed?</p> <p>Has the program led to a successful integration/coordination between various governmental authorities?</p> <p>Have other appropriate institutions been established and strengthened?</p> <p>Did the program enhance the capacity of the institutions involved to deal with the problems treated in the project?</p> <p>Does coordinated priority setting work?</p> <p>Have government entities changed their way of doing business?</p> <p>Is the institutional location of the program office appropriate to keep program issues on state and local agendas?</p>
Institutional structure	<p>What administrative framework (e.g. inter-ministerial committee, coastal commission, etc.) has been used for the planning and implementation of the program?</p>
Human capacity	<p>Is the management capability of relevant agencies strengthened?</p> <p>Is technical advice and knowledge being transferred to district and regional staff?</p> <p>Is technical advice effective?</p> <p>Were the results of the program linked to the policy making and managerial decisions?</p> <p>Which technical tools for coastal management have been utilized during the preparation of the program (e.g. GIS, cost-benefit analysis, carrying capacity assessment, strategic environmental assessment, etc.)</p> <p>Is the program demonstrating state-of-the-art technical and management techniques?</p>
Use of scientific information	<p>Are links between scientists and decision-makers promoted?</p> <p>Was the available environmental information utilized for managerial decisions?</p>
Clear roles and responsibilities	<p>Are jurisdictional mandates of government agencies in relation to coastal management clear?</p>
Policy framework/legislative mechanisms	<p>Are effective legislative instruments and incentives implemented and rigorously enforced?</p> <p>Is there an adequate coastal management policy framework?</p> <p>Are coastal laws dealing with coastal waters adequate?</p> <p>Are coastal laws enforced?</p> <p>Have the various laws and regulations affecting the coastal area environment been harmonized?</p> <p>Were the existing regulations for control of pollution enforced in the area covered by the program?</p>

Table 4 (continued)

Theme	Question
Public education/awareness	<p>Have public education and awareness programs been established?</p> <p>Has the program promoted bilateral and multilateral training relationships between countries of the region?</p> <p>Have centers of excellence for coastal management been established in the region to support capacity building?</p> <p>Are coastal people aware of the program and what are their overall perceptions of the program?</p> <p>Has the awareness of the communities resulted in any change in practice or behavior?</p> <p>Were public awareness issues addressed in the program through radio, TV, newspapers, brochures/leaflets, lectures, other?</p> <p>Have attitudes changed as a result of the program?</p>
Activities to address issues	<p>Have approaches and strategies to decrease pressure on coastal resources been formulated?</p> <p>Did the program make any recommendations regarding ecosystem conservation?</p>
Participation	<p>Are all the key stakeholders involved in program design and implementation?</p> <p>Was there a sense of close association with the program among the affected population?</p> <p>Has the program contributed to community cohesion or led to conflict?</p> <p>Are there significant incentives for public participation/support for the program over the long term?</p> <p>How is the public involved in the decision-making process?</p> <p>What mechanisms are used to involve the public in decision-making? Which ones work best and why?</p> <p>Does the public feel they substantially influence the decision-making process and hence influence change?</p> <p>Have public participation efforts improved public and political support for program development and implementation?</p> <p>Are decisions based on consensus?</p>
Best practices	<p>Have appropriate incentives and guidelines been formulated to guide environmentally friendly economic activities in the private sector?</p>
Sustainability	<p>Are the impacts of the project likely to sustain the project through the rest of the project period and beyond?</p> <p>Can the program be sustained by existing the local structures and is there an exit strategy?</p> <p>Does the program meet sustainability criteria (government and community interest and capacity; national institutional structure and infrastructure to maintain and develop program; political will and ability to address constraints)?</p> <p>Is there a financial mechanism to extend activities beyond the life of the program?</p>

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Table 4 (continued)

Theme	Question
Conflict resolution	Are conflicts being resolved or not? Is there an effective forum or mechanism for conflict resolution regarding resource use in the coastal zone?
Monitoring and evaluation	Have program policy planning and implementation been monitored and the results expressed? Is progress being monitored? Have indicators been used to measure progress? Was an environmental monitoring system part of the program?
Environmental impact assessment	Is environmental impact assessment (EIA) a required procedure in your country? Was an EIA carried out? If an EIA was implemented, was it useful?
Assessment of conditions	Have population dynamics in the program area been taken into consideration? Have the future economic growth issues been taken into consideration? Can natural resources in the area sustain future economic and population growth? Have changes in economic activities and their impact on the coastal zone been taken into consideration? Have trends in urbanization and its impacts on the coastal zone been taken into consideration? Is the existing and future use of the marine environment in the program area taken into consideration? Was a social assessment prepared in program preparation to determine potential impacts? Do characterization and other scientific studies provide the information necessary for making decisions? Is this information used in making decisions? Does characterization fill in data gaps related to priority problems? How and to what extent does characterization improve understanding of the system? Does characterization link causes to the identified problems?
Traditional attitudes, uses, and rights	Are traditional attitudes, uses and rights to the coastal zone by local groups respected in the management regime? Have social or cultural norms influenced the project design and implementation?
Transfer of knowledge/experience	Was the enhanced know-how and methodological development applied in other projects in the country? Has information on the program been shared/exchanged with other initiatives in the region? Are partners taking up lessons learned?
Public disclosure	To what extent are program data available to the public and other users?

*The list is not a complete inventory. Because of length, not all the questions used in the evaluative instruments developed by the URI Coastal Resources Center that have been applied to the final evaluations of the Patagonia, Cuba, and Belize projects funded by UNDP/GEF are listed (see [23]). Also not included are the many questions of the NOAA/OCRM Section 312 assessments.

Table 5
Outcomes evaluations: themes and questions

Theme	Question
Overall impacts	Are the impacts generated satisfactory? What are the overall impacts of the program on its beneficiaries?
Environmental impact	Do program activities result in the improved health of the environment? Are areas being protected or conserved? Did the results of the program lead to tangible results in the area? Have improvements in environmental quality occurred as a result of project implementation? What is the area of wetland afforded protection by the local planning and zoning as a per cent of all water/wetland area under control? What is the area of annual permitted wetland loss per year as a per cent of all regulated water/wetland?
Socioeconomic impact	Is there increased productivity, income, access to resources, and alternate resource use?

3.3. Outcomes evaluation

3.3.1. Purposes and methods

Program or project outcomes indicators assess the impacts of a coastal management initiative upon coastal resources and/or the associated human society(s). Outcomes include such expressions of change as a decrease in the destruction of important habitats such as mangrove wetlands or coral reefs, reduced coastal erosion in a management area, miles of public access provided to the shore and changes in target group behavior (see Table 5). As coastal management programs mature, legislators and donor representatives demand evidence of improvements in outcome conditions as evidence that programs “work” and are worth the investment.

Developing an outcome evaluation requires a clear articulation of program purposes, processes and intended consequences. While “outcomes” generally refer to end-of-project impacts, in principle, we need to distinguish between intermediate and end outcomes. In a community-based coastal management program this distinction might mean the formation of a fishers’ group and the adoption of rules governing fishing practices (first-order intermediate outcome), changes in fishing practice (second-order intermediate outcome), and increases in fishing stock and improvement in the livelihood for fisherfolk (end outcomes).

The major task of outcome evaluation is agreeing about how best to quantitatively measure the outcome with validity and reliability. A second major challenge is measuring “change” in outcome conditions and confidently attributing some or all of these changes to the program. Analyzing the change in the outcome conditions requires baseline data from which change can be measured.

In some cases, just measuring changes in various indicators of outcome is considered sufficient to make judgments about program “success”. However, perceived

changes in indicators usually may be attributed to a number of factors, such as less intense monsoons in the case of erosion rates. Under these circumstances, experimental or quasi-experimental research designs may be required to assess other possible explanations. Time series analysis of erosion rates, fishing harvests, turbidity, coral mining or other indicators of program goals can provide quasi-experimental approaches to estimate the impact of the program. Another quasi-experimental approach is to compare villages where community-level coastal management programs are in place to other villages which are similar to program villages in every other relevant way and then comparing the degree to which differences between the two can be attributed to the coastal management program.

Survey observations. Outcomes evaluations are far less numerous than the performance or capacity evaluations. The design of coastal management programs rarely calls for documenting baseline conditions in sufficient detail so that evaluators can make quantifiable, rigorously objective assessments of how key outcome variables change during project implementation and the degree to which change may be attributed to the efforts of a program. The absence of adequate baseline information combined with the absence of control sites has led to a reliance in existing outcomes evaluations upon descriptive information and on the perceptions of evaluators and key informants on the success and quality of a project's efforts. This is the case of most of the evaluations reviewed in the survey, as well as other evaluations surveyed in the literature (e.g., [17,18]). We have reviewed only one attempt to evaluate the outcomes of coastal management as these apply to measurable change in the condition and use of coastal environments. This is a national assessment of the impacts of the U.S. Coastal Zone Management Act as measured by the program's effectiveness in protecting wetlands and estuaries, providing public access to the shore, protection of shoreline features and promoting waterfront revitalization and seaport development [19,20]. A major finding of the assessment is that data to assess on-the-ground intermediate and end outcomes of programs are insufficient.

A major reason for limited outcomes evaluation by international donors is that coastal management is a new endeavor and the time frames required to realize the end outcomes are long term. Most donor sponsored initiatives got underway after the UNCED Conference in 1992.

The paucity of outcome evaluations is also due to the difficulties inherent in confidently ascribing change in a society, its institutional structures, its policies, and the condition of its coastal ecosystems to the efforts of an coastal management program. Rigorous impact evaluations are typically considered too complex and expensive. They require control groups, large data sets on a range of indicators, and substantial expertise in data manipulation and analysis. The more complex the program, the more difficult it is to establish valid cause and effect relationships. The argument that the outcome evaluation is too complex or expensive may or may not be valid, but it is a perception that is strongly held by many project managers. Methods for the outcome evaluation of community-based coastal management projects have been advanced and work in Indonesia may demonstrate the cost effectiveness of using controls (see [17,24]).

In some cases, political resistance of program managers to outcomes studies may be an obstacle. Program managers often fear that at least some of the determinants of program outcomes are out of their control or that judgments will be made about program effectiveness prematurely. A program that has “improvement of water quality” as a goal may not have the legal authority, sufficient enforcement personnel or technical skills to control some of the major activities contributing to water quality. Recognizing that “what gets measured, gets done”, they worry that an outcome emphasis will divert program resources to focus on activities that have impacts that are more easily measurable.

These constraints to outcome evaluation — the time frames required to realize long term end outcomes, resistance on political grounds, and the difficulty of tracing cause and effect relationships — are a challenge to the implementation of the recently introduced USAID system of outcome-based performance monitoring that is being applied to its coastal management projects (in Central America, Mexico, eastern Caribbean, Indonesia, Philippines, Middle East, Kenya, and Tanzania). Performance monitoring is an expression of the Clinton administration’s commitment to “reinventing government” and the Government Performance and Results Act of 1993. It is a significant departure from the former emphasis upon logical frameworks and performance evaluation based upon “objectively verifiable indicators”.

Another more practical reason for the scarcity of complex evaluative studies is that coastal management managers have become sufficiently certain about the effectiveness of particular types of many coastal regulatory and non-regulatory strategies and no longer see the need for studies assessing cause and effect linkages. For many managers, the causal “theories” linking coastal setback requirements, access requirements, wetland protection strategies and the like to improved coastal outcomes are well understood. Properly implemented, they work in predictable ways. From this perspective the need is for insights into the quality of implementation and impediments to effective implementation.

A final reason for the scarcity of outcomes evaluations is that public debate about some major environmental management efforts focuses less on whether particular management efforts “work” as intended and more on the dimensions of equity and the distribution of benefits and costs. In the United States most of the public debates on coastal management are not about whether, for example, setback requirements reduce exposure to coastal hazards, but about the costs of compliance and how those costs are or should be distributed.

4. Promoting a learning-based approach to coastal management

The survey results reaffirm the interest among international donors investing in coastal management to learn from and advance coastal management practice. They also suggest that if international donors are to maximize learning and commit to an adaptive approach to ICM they will need to modify the manner in which project monitoring and evaluations are conducted, analyzed and distributed. Donor evaluations are currently structured mainly for performance evaluation and emphasize the

accountability of those entrusted with a project's execution. This is indeed essential and it is to be expected that such controls remain the prerogative and the responsibility of funding agencies. However, performance evaluations do not currently promote a learning-based approach to ICM. Performance evaluations — particularly when these are critical — are usually considered proprietary and are rarely published and in some instances are not even shared with those implementing the program or the governments of the places where the project activities occur.

Donor performance evaluations often combine elements of management capacity assessment and/or outcomes evaluation. If donors are to collaborate in a learning-based approach to coastal management, the experience and knowledge gained from these assessments will need to be more widely disseminated, the theories that underlie program designs will need to be clearly specified, and the intended program outcomes, or the standards against which progress is measured must be made explicit. How, in operational terms, could donor evaluations be strengthened to best learn from the broad array of existing programs? What can be done to encourage evaluative processes that both lead to improvements in specific programs and to the generation of more general observations about the attributes of successful programs (as recommended by GESAMP [11])? Outlined below are some brief observations about how evaluative practices can help encourage a learning-based approach to ICM.

Institutionalize management capacity assessments. Institutionalizing a commitment to periodic management capacity assessments during the implementation of coastal management initiatives can lead to improvement in specific initiatives and enhance learning about the attributes of successful programs [21,22]. This can be achieved by structuring coastal management initiatives to encourage reflection, learning and “instrumental adjustments” that inevitably are required to fine tune a program's theory and mode of execution. Such a change in operating procedures would require a significant shift away from the current practice followed by many donors whereby projects are evaluated for their adherence to an initial project design written by teams of consultants who are rarely subsequently involved in project execution.

An accepted approach to management capacity assessment can become a means for achieving greater ownership of coastal management initiatives by the government and local stakeholders. This goal is increasingly recognized in a diversity of international forums, such as the first General Assembly of the Global Environment Facility (New Delhi, April 1–3, 1998). Clearly linking project or program activities with national priorities, demonstrating forward progress, and highlighting accomplishments, creates a sense of common purpose, hope, ownership, and accountability.

A second step towards applying a learning-based approach to capacity assessment is to prepare and disseminate evaluative instruments that make explicit the standards for “good practice” against which progress and learning will be assessed. The use of common approaches to management capacity assessment could become important to countries when they define their agendas for the donors and when working to achieve greater consistency in the coastal-management-related activities within their boundaries. This was another conclusion of the Paris meeting in 1996 and it has led to the preparation by an international experts group, and initial testing of a handbook for

assessing progress in the coastal management [15] and the evaluation of four first generation UNDP/GEF projects. The projects were designed to promote coastal biodiversity protection through establishing or strengthening coastal management initiatives in Belize, Cuba, Dominican Republic and Patagonia, Argentina. The four projects were evaluated using a common management capacity evaluative framework (the reports are available from the Coastal Resources Center). This handbook is structured according to the steps in the process by which coastal management initiatives evolve as described by GESAMP [11]. The handbook addresses standards for “good practice” by posing lists of questions designed to probe the design and quality of the execution of each of the major steps of issue definition, planning, formal adoption and implementation. In the future, other instruments need to be developed, tested and refined so that coastal management practitioners and their funders have available to them a diversity of evaluative instruments as those which exist for more mature fields such as public health. The application of such instruments can begin to provide common methods for tracking the progress of coastal management initiatives, and can provide a basis for critically assessing the theories and practices that produce sustained success in coastal management initiatives.

Encourage outcomes evaluation. Over the long term, the ultimate test for a coastal program is how it affects coastal conditions such as lagoon productivity, erosion rates, water quality and the livelihood conditions of coastal residents. Evaluative studies of ICM initiatives focusing on the outcome are rare, as noted above. While the resistance to outcome evaluation on practical and political grounds is understandable, it diverts attention from the primary value a focus on outcome has for coastal managers, funders and policy-makers. A focus on what outcome a program or project is intended to achieve helps clarify goals and program design. Sustained reflection on what programs are intended to achieve can help clarify what goals should have priority and whether program resources are adequate to achieve intended goals.

A focus on the outcome will also force a reality check on the project goals. The too often ignored reality is that significant improvements in the condition of coastal ecosystems and the livelihood of coastal residents will not occur on a significant scale in the lifetime of most three to five year donor projects. It is crucially important that various “orders” of intended coastal intermediate and end outcomes be defined and that the timeframes for achieving them at different scales be recognized. First order intermediate outcomes might include, for example, formal approval of a coastal management plan by the appropriate non-governmental groups and governmental authorities, and formalization of the institutional arrangements required to implement the plan. Second order intermediate outcomes might include changes in the target group behavior, resolution of inter-agency conflicts, infrastructure construction or improvement, and changes in perception and attitude among stakeholders.

Another reason for promoting outcome evaluation is to document change even when rigorous attributions of causation are not necessarily possible. The need to carefully document change in critical social and environmental parameters of the coast has been recognized by such national and international institutions as the National Oceanic and Atmospheric Administration (NOAA), the Organization for

Economic Cooperation and Development (OECD), the United Nations Environment Program (UNEP), and the Commission on Sustainable Development.³

Clearly specify program theories. ICM programs are complex endeavors designed to sustain or improve coastal conditions by means of regulating land and water activities, coordinating the management activities of government agencies, encouraging self-regulation through persuasion and education, constructing harbors and coastal works, and many other activities. Focusing on the outcomes of coastal programs reveals *what* happened — whether intended impacts were realized. But learning and adaptation requires information about *why* and *how* coastal conditions changed.

Focusing on the *why* and *how* of the program requires a detailed understanding of the program “theory”, logic or assumptions about how program activities are intended to result in improved coastal conditions. Program theory usual includes “(a) program inputs; such as resources and organization auspices; (b) program activities which represent the manner in which the program is implemented; (c) interim outcomes — that is the chain of responses the activities elicit, which are expected to lead to (d) desired end results” [26]. Some program “theories” are relatively simple to describe. A program attempting to improve water quality by prohibiting the discharge of untreated industrial discharge in estuaries in marine waters assumes that (a) industrial polluters will know of the prohibition; (b) that sanctions for non-compliance will be sufficient to deter illegal discharge and/or program enforcement processes will detect instances of non-compliance, (c) non-complying industries will be penalized, and (d) water quality will improve in some specified way. Understanding this basic logic helps evaluators focus on the key aspects of the program theory, including the rates of compliance and reasons for non-compliance. Some program elements such as those involving persuasion or coordination have lengthy, more complex chains linking the program inputs to intended outcomes.

Most ICM programs are the assemblages of multiple regulatory, research, educational, coordination and planning activities intended to achieve multiple goals. Eliciting program theories involves examining all the management activities incorporated in the program. Program documents (plans, funding proposals) are a useful place to begin, but programs in practice are frequently different from what their official

³ These institutions have adopted the Pressure-State-Response framework as a means for segregating between major types of variables. The “pressures” are the external forces that influence, and sometimes drive both the intermediate and final outcomes that a coastal management program is striving to achieve. They include demographic, economic, institutional and political, and social pressures. The “state” represents the condition of the ecosystem, quality of life and achievement of intermediate coastal management objectives. The “response” is the governance process that, in the context of the pressures works to change the selected state variables and ultimately to influence some of the pressures. The PSR framework unites the three elements in a cycle of causality whereby the response of a coastal management program forms a feedback loop to the pressures created by human activities. The PSR framework is a useful conceptual model and is the first step towards monitoring and documenting changes but its application to better understanding the causes and consequences of anthropogenic coastal change poses very great operational and conceptual difficulty. To date, the vast amount of research and data on the state variables for topics such as coastal management, climate change, and biodiversity protection have not been well linked to response variables.

description suggests. Indeed, interviews with staff and program observers may reveal that there are several different and sometimes competing perspectives on how the program is designed and implemented and what improvements in coastal conditions are expected or considered important. Evaluations may need to examine such differences. Such analysis therefore may go well beyond tracing the connections laid out in the logical framework.

A new evaluative emphasis on program theories can bring important benefits for program managers, donor officials and policy-makers. One of the primary benefits to program managers is to identify where the program logic is strong and where it breaks down. Detailed examination of program logic can reveal enforcement problems, inadequate technical analysis in issuing permits and other implementation problems. Careful analysis of implementation activities is therefore central to program remediation. For donors and managers elsewhere it also conveys other program benefits. It can provide explanations and stories about how and why particular program activities work or do not work in different settings. Detailed analysis of program theories contribute to instrumental, project-specific learning, but the stories and explanations can, if widely disseminated, enlarge our general understanding of why and how coastal management initiatives influence change in the qualities of coastal ecosystems.

Emphasize shared interests. Program managers often view evaluators as adversaries whose job it is to find fault with the program. With roots in both financial auditing and social science, traditional evaluation has emphasized maintaining a critical distance from the program and those conducting the evaluation. Such separation may be appropriate in performance evaluation. But when promoting “learning” is the primary purpose it is essential to emphasize the shared interests among evaluators and program staff. A greater emphasis on specifying intended outcomes in the program design phase and a shared recognition that the ultimate test of the program will be in terms of the achievement of those outcomes, frees both the staff and evaluators to collaborate on the identification and analysis of program design and implementation issues. With a learning agenda, evaluations can focus on implementation processes and intermediate program outputs and outcomes that can help identify why and how programs are succeeding or failing. Those conducting evaluations can serve as coaches and collaborators in identifying successful approaches from other projects and ways in which programs could be modified. Evaluations can help staff reflect on what’s working well and what’s not, and what program adjustments might help. In these instances, capacity assessments have much in common with the tradition of peer review and accreditation.

Employ multiple methods and perspectives. Promoting learning does not require application of a quantitative, experimental model of evaluative research. Indeed, learning connotes an emphasis on research relevance; on rigor without certainty. Balancing credibility and relevance will require a mix of quantitative and qualitative research methods that combines focus groups, individual interviews and observations with analysis of environmental and socio-economic indicators. The most critical change needed is to explicitly accommodate reflection and adaptation from the project design stage onward which enhances the endeavor of the coastal management in specific locations and worldwide.

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