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Responses to the Terms of Reference for the Final Evaluation of the Coastal Resources Management Project

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V.A: USAID STRATEGIES FOR SUSTAINABLE DEVELOPMENT

The parallels between the operational approach and strategies of the CRMP and USAID's 1994 Strategies are reviewed in the first section of this briefing book. In this section the criteria for assessing environmental protection projects listed in the Strategies (pp 12-13) and repeated in the TOR for this evaluation are applied to the CRMP. It must be noted that these criteria were not the ones applied by USAID or URI to the project during either its design or implementation.

USAID's two strategic goals are (1) reducing long-term threats to the global environment and (2) promoting sustainable economic growth. Coastal regions, as the primary habitat for the human species, should be an important emphasis for USAID:

- They contain half of the world's current population and are projected to contain three quarters of the world's population in 2020. Yet coastal regions, if arbitrarily defined as extending 60 km inland from oceans, seas and major lakes, contain less than 10 percent of the planet's inhabited land space (Olsen, in prep.).
- Coastal regions contain a similarly large share of the world's urban areas, industry, tourism, and pollutant sources
- Coastal regions also support a disproportionately large proportion of the world's most productive ecosystems in terms of food production and ecosystems with high biodiversity (coral reefs rival tropical forests in biodiversity per unit area).

USAID should work to reverse current trends of coastal ecosystem change in developing nations that are reducing the long-term capacity of these systems to provide people with or adequate quality of life and sustainable wealth.

The effects of global climate change will be particularly disruptive and costly—both economically and in human suffering—in the primary habitat of our species. As summarized by the reports of the International Panel on Climate Change (IPCC) and suggested by the results of intensive international research programs, coastal regions may, with the next century, experience the following impacts:

(1) Rising sea level
   - inundation of low-lying lands and cities
   - salinization of groundwater
   - loss of critical habitats
(2) Increased damage by storms and floods of greater intensity and frequency
(3) Changes in rainfall and flows to estuaries
(4) Possible shifts in ocean currents and areas of upwelling

Such change will accelerate the major losses in coastal biodiversity that are currently being caused by unsustainable forms of development and population

growth. The U.S. with its long and rich experience in the many facets of coastal management has a strong comparative advantage for offering the process and techniques for developing both global and country specific strategies for responding to challenges in coastal regions. This body of experience spans across coastal zone management, estuary management, watershed management, coastal engineering and water quality management to name only some of the relevant bodies of expertise and practical experience (insert overhead on this).

The biodiversity of coastal regions along the coasts of developing nations is already under massive attack as population growth doubles in thirty years but every decade or less in many coastal cities. These pressures are homogenizing coastal environments and transforming them into engineered, densely populated landscapes, often severely polluted and less capable of providing the food and livelihoods required by the growing numbers of people living in poverty. Sixty percent of the world's coral reefs, for example, are in danger of being lost or suffering severe deterioration in 30-40 years (Vital Signs 1994). Coastal regions meet USAID's criteria for focusing on areas "richest in biodiversity and in the greatest threat" and "least disturbed and presenting the greatest opportunity for long term concentration." Future USAID activities in coastal areas should focus on both categories of areas.

At a country specific scale USAID's approach will differ depending on a country's environment priorities and USAID's overall country program. USAID's Strategies call for country programs to include assessments of:

(1) agricultural, industrial and natural resource management practices
(2) public policies and initiatives to protect the environment
(3) bilateral and multilateral interventions
(4) environmental research and education

The CRMP, as stated explicitly as the Project Purpose, included elements of all four of these components but focused primarily on #2. Both the Project Paper and the Supplement are explicit that CRMP was not designed or expected to reduce or reverse expressions of environmental degradation. The strategy has been to identify and where possible put in place the institutional preconditions and public-private constituencies that—in an initial implementation phase of the first generation program—have the capacity to make progress on expressions of coastal ecosystem degradation. Reversing or halting trends in coastal ecosystem degradation in the face of the combined impacts of burgeoning populations in the pursuit of unsustainable forms of development and climate change will take decades and in many nations can occur only if the scale of intervention is far larger than that contemplated by first generation CM programs now getting underway in some developing nations.

CRMP has given much attention to understanding the relationships and interdependencies among the many activities listed under Programs and Mehods for protecting the environment in USAID Strategies (p 12-14). Much has been learned about how they can be sequenced and combined to produce a

meaningful participatory process for the people involved that creates the preconditions for effective environmental management.

A. Did the project target objectives that will "[improve] agricultural, industrial and natural resource management practices?"

The specific objectives of the three pilots and the outreach program are all directed at the improvement of the management of natural resources in coastal regions. The specific objectives (often termed policies) for improved natural resource management in the pilots are articulated in the Joint Project Agreements and in the formally adopted plans and strategies that have resulted from CRC's partnerships within those nations See ii below).

Where agricultural and industrial practices significantly impact the coastal areas selected as focal points for the project, they have been addressed by developing specific objectives and specifying improved practices. In the pilot countries objectives specific to agriculture are included in the Ecuador SAMs (for example Valdivia and Bahia). Agricultural practices are also important in the Rekawa SAM in Sri Lanka where efforts to enhance rice culture have brought a collapse in the lagoon's once important shrimp fishery, and in Pak Phanang, Thailand, where conflicts between rice and shrimp farmers are intense. Examples of industrial practices for which specific objectives have been established include coral mining (Sri Lanka), industrial scale shrimp farming (Ecuador) and tin mining (Phuket, Thailand). In all cases, however, objectives for improved industrial and agricultural practices are placed within the context of an integrated resources management plan for a SAM site.

Learning to set achievable objectives and selecting appropriate strategies for improved coastal resource management are central learning objectives in all CRC-sponsored international training programs. This is also a major theme in CRC assistance to Missions.

B. Did the project "[strengthen] public policies and [indigenous] institutions to protect the environment through activities such as:"

i. Reform of national economic policies, development strategies, and market mechanisms.

The CRMP's focus has been primarily upon development strategies for coastal areas and resources. These are articulated as integrated management plans for geographically-defined areas—be it a coastal strip around the nation, as for the Sri Lanka Coastal Zone Management Plan or for specific SAM sites.

Reforms of market mechanisms and national economic policies have been developed where these can contribute to addressing the specific resource management issues addressed by such first generation management programs. Studies that address the economics of development include:

- an economic analysis of tourism in Galapagos (Epler 1993) led to reforms in the licensing and fee structure for tour vessels that were formally put in place by government in 1993.

- Coastal 2000, that was formally adopted by the Sri Lanka cabinet in 1994, sets out a comprehensive policy framework for coastal development and management that has strong implications for national economic policies.

- Tantriyama and White (in press) have examined the economic benefits for tourism of sustained environmental quality in Hikkaduwa, Sri Lanka; such work contributes to building support for market mechanisms that will sustain effective coastal management in Sri Lanka.

- Odum and Arding (1989) provide a radical examination of the long-term implications of the prevailing national economic policies and market mechanisms as they apply to shrimp mariculture in Ecuador.

- Aguero and Gonzales (in prep) are examining the economics of shrimp mariculture development in Bahia, Ecuador, using more traditional economic methods, and likewise identifying their implications for national economic policy.
- Burroughs and Olsen (in prep) are preparing a policy brief on the public policy issues posed by shrimp mariculture.

ii. Development of a comprehensive environmental policy framework, including laws, regulations, and standards.

Such work has been central to the three pilots and to the assistance provided to Missions, governments and multilateral donors (such as UNDP and the World Bank) through the outreach program. It has been the policy of CRMP, however, to concentrate upon creating an institutional and public climate within which more effective resources management can occur by emphasizing the operational approaches articulated in USAID's 1994 Strategies before recommending new laws, regulations and standards. The CRMP has therefore put a major emphasis upon building constituencies for improved management and carefully matching formal regulatory instruments to institutional capacity and societal acceptance. In both Ecuador and Thailand a detailed and critical inventory and assessment of existing laws, regulations and standards relevant to coastal management revealed that the problems lay not in the regulatory framework per se but in the absence of support for implementation both within and outside government. In these countries we concluded with our counterparts that preparing new laws, or instigating the drafting of better regulations and standards would be of little practical use. In fact, pursuing such formalistic "paper" exercises can have the effect of further eroding the credibility of natural resource management initiatives. Thus, the Ecuador SAMs place a major emphasis on development policies and conflict resolution procedures since here regulations and standards are often meaningless. In Sri Lanka, however, where governance structures are more developed, the CZM Plan contains specific regulations and standards.

Examples of a comprehensive policy framework for coastal management at a national scale include:

- Sri Lanka: The CZM Plan (adopted 1990) and Coastal 2000 (adopted 1994).
- Thailand: The coral reef management strategy (adopted 1992).
- Ecuador: Structure and Objectives for a Coastal Management Program for Ecuador (Matuszeski et al. 1988), Executive Decree 393 (1990) and 3399 (1992) and the GOE/Inter-American Development Bank Coastal Management Program (1993). All of the above have been formally adopted by the highest levels of government following a lengthy process of public input.

The initial steps towards such comprehensive policy frameworks are also expressed in the CM Strategy for Central America (Olsen and Foer, 1991) and the coastal program designed for Mexico with the World Bank (Robadue, Ochoa and Olsen (1994).

Examples of comprehensive policy frameworks that have been formally adopted or one in progress are listed in the following table.

Special Area Management Plans Undertaken or Proposed Through CRMP

Country	Name	Status
Ecuador	The five sites designated by Executive Decree 393	Adopted locally and by the National CRM Commission 1993, funded by IDB Loan 1994
Thailand	What Future for Phuket? Pak Phanang SAM Plan	adopted and funded profile produced 1991
Sri Lanka	Tarutao National Park Phi Phi National Park Hikkaduwa Rekawa	adopted by RFD, 1991 adopted by RFD, 1991 plan in progress plan in progress
Philippines	Anilao, Batungas Tubataha National Park	Pre-planning now ongoing Planning to occur 1994/95
Zanzibar	Southeast Section	planning funded
Kenya	Bamburi	planning funded
Mexico	five lagoons examined	incorporated within World Bank proposed project
Dominican Republic	Samana Bay	Advise provided to CMC

iii. Promotion of procedures for measuring, assessing, monitoring, and mitigating the environmental impact of economic growth.

All the documents listed in "ii" above as "comprehensive environmental policy frameworks" at a national or regional scale and the nine SAM Plans adopted or

being prepared are the CRMP's preferred means for accomplishing this objective in tangible terms within a specific country.

CRMP international training courses are also directed at this objective. A module on Impact Assessments is a feature of many courses and a handbook on impact assessment in coastal regions has been prepared and distributed worldwide (Sorensen and West 1992).

iv. Improved enforcement of environmental laws and regulations. The absence of meaningful enforcement of laws and regulations affecting how coastal resources are utilized and managed is a dominant reality in most developing nations. This has led the CRMP team to be cautious about preparing and working for the adoption of additional laws and regulations (see "ii" above) and to focusing instead on improving the prospects for the implementation of existing status. CRMP has pursued three strategies:

1. Build constituencies for effective enforcement among (a) those segments of society most directly affected by the condition and use of the resources in question and (b) those responsible in government for enforcement (the two track strategy). This is best illustrated in Ecuador where ZEM level committees are providing an unprecedented citizens' forum for analyzing and resolving conflicts (e.g., cutting of mangroves in conflict with both the adopted SAM Plan and existing statutes) and organizing Ranger Corps composed of the local level enforcement officers of several ministries and motivating them to discharge their responsibilities. Without such groups understanding why it is important to enforce and how such enforcement can occur the basic motivations that are the precondition to improved enforcement will not exist.

2. Work to ensure that laws and regulations are enforceable. CRMP has demonstrated repeatedly that some laws and regulations are unenforceable. The regulatory steps taken to halt coral mining are a textbook example of the failures of a regulatory approach when central government is weak and struggling to control massive public unrest. Coral mining will be controlled only when there are alternative sources of income for miners and/or when alternative sources of high quality lime are available at competitive prices. Similarly, in Ecuador a complete ban on mangrove cutting or protected closed seasons in the post larvae (PL) fishery are untenable. Sanctioned sustainable mangrove harvesting although in conflict with existing law is proving to be an effective strategy for protecting mangrove wetlands from conversion to shrimp ponds.

   The CRMP's highly participatory and iterative approach to resource management encourages discovering how regulations can be framed so that they are supported by significant segments of society and therefore are indeed enforceable.

3. Encourage collaborative action among enforcement agencies. Coastal resources often cut across the jurisdictions of several governmental

agencies and single agencies often have neither the power nor the resources to enforce plans and regulations on their own. In Ecuador major advances have been made by formally constituting Ranger Corps led by Navy Port Captains, that bring together the personnel, resources and authority of four agencies. In Thailand negotiating collaborative action by up to four agencies to implement the National Coral Reef Management Strategy was one of the biggest challenges. In Sri Lanka the Coast Conservation Department is devolving authority for permitting and enforcement to local government.

A major impediment to progress on improved enforcement during the CRMP was USAID's prohibition against assistance to government personnel that bear arms. This delayed assistance to the Ecuador Ranger Corps.

v. Creation or strengthening of competent environmental institutions within government, the private sector, the NGO community, and academia.

Within government the CRMP:

- Created in Ecuador entirely new institutions on both tracks (see organizational chart in Section II.D) that for the first time make intersectoral (and interministerial) management possible and bring the prestige of the Office of the President (sustained through three administrations) to the program. At the local level private sector interests are assembled through the Comités Zonales achieving another form of integration, here between government and the private sector.

- In Sri Lanka the project has invested heavily in the Coast Conservation Department funding two Masters' degrees, specialized training and a series of collaborative projects. More recently we have worked to strengthen NARA and District Councils at the two SAM sites.

- In Thailand the counterpart agency was ONEB which was recently upgraded and transformed into a new agency that contains a coastal management unit led by the former ONEB staff assigned to the CRM I pilot. In Thailand the CRMP also played a significant role in instigating the natural resource planning and management functions that now occurs at the provincial level.

The CRM I has worked to involve the private sector in phases of the management process. Thus the Comités Assessor in each of the six SAM sites in Ecuador that shaped each Plan and spearheaded creation of a local governance process were composed of private sector representatives (artisanal fishermen, hoteliers, mariculturists, etc.). The project has encouraged the formation of private sector associations in each SAM site that can articulate their needs and formally participate in the continuing governance process. More than 300 such user group associations have been formed in the SAM sites. In Thailand the tour boat operators and hoteliers association in Phuket became

major participants in the process of developing that plan and such private sector associations became active constituents for improved resource management through that process.

NGOs have supported and been strengthened by the project in each pilot nation. In Ecuador the Fundación Pedre Vicente Maldonado that has been one of the principal participants in that pilot is now a visible and effective organization dedicated to promoting effective coastal management.

In academia (universities and research institutions), CRMP:

- Created CORIN at PSU, strengthened faculty associated with CORIN, assisted in early CORIN projects, and presented training courses in partnership with CORIN;
- Formed an informal partnership with ESPOL, hired faculty as consultants, presented joint training courses, and assisted in planning for the recently established CRC/ESPOL;
- Worked with faculty at Silliman University and presented a training course there;
- Established a 'CRM Core Group" at NARA and provided funding for equipment for applied research related to coastal management;
- Provided training to 15 faculty members from universities in 12 countries at CRC training courses;
- Hired faculty members from 14 universities in developing countries as consultants to CRC projects;
- Built a much closer relationship with URI:
  - faculty served as consultants, trainers, members of the Board, etc.;
  - CRC staff have taught courses, served on university committees, etc.;
  - support has come from the highest levels of the administration;
  - three positions now funded by URI;
  - established a student intern program;
  - established a seminar series;
  - employed many students.

vi. Creation of environmental data bases and inventories.

The first step in formulating management policies and a plan of action for coastal management issues selected as a focus for a country program is to assemble and integrate the existing information in the form of a profile or "issue driven analysis." Data bases and inventories can be important elements of this initial process. Some of the more important expressions of this work include:

Ecuador

- Computerized data base of laws, regulations and procedures relevant to CM.
- Atlas of coastal geomorphology and recommendations for shorefront management.
- Data base for water quality at selected sites.
- Data base on distribution and condition of mangroves.

- Data base on numbers of artisanal post larvae fishermen and their by-catch.
- Data base on enforcement actions by formally constituted Ranger Corps.
- Data base (maps) on land use within each SAM site

Sri Lanka

- Data base (maps) of critical coastal habitats.
- Data base on cultural and historical sites.
- Data base on economic activity in the coastal region.
- Data base on the resources and human activities in the coastal region (Coastal 2000 and supporting documents).
- Data base for the two SAM sites (produced as profiles).

Thailand

- Inventory and assessment of laws, policies and procedures relevant to coastal management.
- Data base on the condition and use of all coral reefs (presented as a classification system)
- Data base for the Phuket and Pak Phanang SAM sites.

International

- Data base on Integrated Coastal Management Programs. This is complemented by the FAO data base on ICM projects.
- Data base of university programs in coastal management.
- Data base on participants in CRMP-sponsored training courses.

C. Did the project "work bilaterally and unilaterally, pursuing dialogues with governments on environmental issues, such as environmental regulations, [and] natural resource usage?"

The CRMP's success in sustained dialogue with the governments of the three pilot nations produced the major formally adopted policies and [illegible]ns for the use of the natural resources in coastal regions see (a) and (b)ii above. The response to Task 2 (c) covers CRMP's successes in leveraging bilateral and multilateral financial support for activities initiated by this project.

The CRMP's multilateral initiatives have occurred at both the global and regional scale.

Globally

- The operational approach developed by CRMP and modeled in the three pilot nations is strongly reflected in Chapter 17 of Agenda 21 produced at the Rio Earth Summit. Nora Berwick, who at the time was the CRMP Project Officer at USAID, made a major effort to incorporate the project's experience and strategies in this document; draft text was prepared by CRMP staff at URI for consideration during the preparatory meetings to the Summit.

- As participants in the preparatory workshops for the 1993 World Coast Conference, CRMP staff and pilot country associates helped set the stage for debate at the Conference. The CRMP Project Director was a member of the U.S. delegation at the Conference and helped argue that engineering responses to sea level rise should be only one element of the rationale for, and the outcomes of, ICM programs. The U.S. statement, the Conference Statement and the Conference Report all reflect the ultimate acceptance that integrated, participatory and incremental approaches are most effective.

- In 1994 the CRMP Project Director was invited to become a member of the Group of Experts on the Scientific Aspects of Marine Protection (GESAMP). This organization is supported by all the major U.N. agencies and in its 23 years of existence has provided guidance and helped set the agenda for multilateral responses to marine pollution. In 1993, the sponsoring agencies decided that the focus had to be changed to feature integrated coastal management. At the 1994 annual meeting in New York the CRMP Director was appointed Co-Chair, with John Grey (Norway) of the GESAMP Task Force on ICM. The Task Force is expected to give rise to a number of working groups that will provide guidance on the design and practice of ICM initiatives to U.N. agencies.

- The CRMP is providing critical assistance to the Department of State and USAID as it works to launch a global coral initiative. The CRMP Associate Director assisted DOS to organize a national consultation day to launch the initiative, then CRC provided subsequent assistance to DOS to compile and analyze on-going US and international efforts in coral research, training, management and technical assistance. Currently, the CRMP is providing staff support to DOS and USAID to further define and implement a major international workshop to define a global coral management action agenda.

- The CRMP project team have been approached by the World Bank for guidance, and possible future participation in training programs for Bank personnel both at headquarters and in the field. In 1994 CRMP project staff (from URI and Ecuador) designed a first generation coastal program for Mexico with the World Bank that has received very positive commendations both within the Bank and from the Mexican government.

- Partnerships have been formed with the UNDP Global Program and the FAO that are producing:
  - an open access data base on national ICM programs (maintained at CRC/URI) and ICM projects (maintained at FAO);
  - sustained training and guidance to the GEF-sponsored coastal management initiatives in the Latin American and Caribbean region, including the Dominican Republic, Belize, Cuba, and Patagonia (Argentina);
  - attendance by agency staff at CRMP Summer Institutes.

At the <u>regional</u> level CRMP has worked multilaterally:

- With the governments of all seven nations of Central America to produce the strategy for initiating first generation ICM initiatives in the region (funded by an add-on from ROCAP).

- With FAO, UNEP (Nairobi) and the USAID East Africa Bureau to design and implement pilot ICM programs in Zanzibar and Kenya; these are due to begin in September 1994.

D. Did the project "support... applied research on key environmental issues..."

In the pilot countries applied research was focused only upon the priority CM issues selected as the focus for a first generation program. A criteria for selecting the CM issues to be addressed was sufficient secondary data for framing public policy and promoting public education. Thus, in Thailand the decision to focus the CRMP pilot in the final phase on a coral reef management strategy was strongly influenced by the existence of a detailed data base on the condition of coral reefs that had been funded by the Australian government.

Where limited applied research was likely to answer critically important questions related to the selected issues and the human and technical resources were available, or largely available, in-country the CRMP considered funding research. Wherever possible, the project worked to leverage funding from other sources to support research. For example, the research designed to document the ecological functions and services provided by mangrove wetlands in Ecuador led by Dr. Robert Twilley (University of Southern Louisiana) was funded in part by the USAID Office of the Science Advisor. The CRM project supported the Ecuadorian working group (meeting costs, training, travel in-country, administrative support) and worked with Dr. Twilley to identify the public policy implications of his findings.

Within these constraints the applied research funded to support first generation ICM programs in the three pilot countries included:

- Intercalibration exercises and base line water quality data for selected critical areas in coastal Ecuador. (water quality working group; advisor, Dr. Candace Oviatt, URI).
- Analysis of the legal and institutional framework for coastal management
  - Thailand, Dr. Panat, advised by Malcolm Baldwin and Dr. Kem Lowry, U. of Hawaii
  - Ecuador, Efrain Perez y Associados advised by William Matuszeski (NOAA) and Don Robadue (URI)
- Baseline survey of the geomorphology of the Ecuador coast and recommendations for management:
  Hector Ayon, advised by Songkkiet; Jon Boothroyd (URI) and Don Robadue (URI)
- Water quality treatment and disposal practices for Phuket (Thailand): Dr. ---- - advised by Dr. Art Gold and Dr. William Wright (URI).

The above are examples of research that produced new primary data on important coastal issues. Major efforts were made to assemble, synthesize and interpret existing secondary data for all issues examined by a country program. This much larger body of work is described elsewhere. Additional primary research on economic topics is listed under B. i above.

Some primary research has also been supported by CRMP on global topics, as listed in B. vi above.

V.B: MISSIONS AND REGIONAL BUREAUS

A. Has the project effectively met the needs of Missions through the add on mechanism?

During the Life of the CRMP interest in natural resource management within the Missions has slowly increased. For many Missions, however, the transition away from traditional USAID priorities has been difficult and the philosophy and operational approaches underlying cross-sectoral, issue-driven, participatory resource management modeled by ICM being accepted slowly. To date, therefore, the add-ons from Missions have responded to the need for help in (a) how to identify and analyze the CM issues, and (b) how to design and implement first generation projects and (c) training. This is reflected by the following list of add-ons.

Mission Bureau	Topic	Total $ / Number Add-ons
Pilot Countries		
Ecuador	Pilot Project Implementation	423,484 / 5 add-ons
Sri Lanka	NAREPP Coastal Element	1,086,000 / 2 add-ons
Thailand	Pilot Project Implementation	1,393,000 / 3 add-ons
Asia-Near East		
ANE Bureau	Coastal Environmental Strategy	9,787 / 1 add-on
Latin America/ Caribbean		
ROCAP	Regional Strategy/Workshop	118,000 / 2 add-ons
Africa		
REDSO-ESA	Regional Demonstration Project in Cooperation with UNEP Regional Seas Program	105,000 / 1 add-on
Global		
Family Initiative	CRM Impact Indicators	25,000 / 1 add-on
Coral Initiative	• Support to Coral Reef Initiative Formulation	~ 14,000
	• Human Use Indicator Formulation (RAMP)	~ 100,000
Environmental Protection Agency	International Training Program	24,981

An expression of the newness of integrated resource management is the interest in training. Missions without direct buy-ins to the Cooperative Agreement have financially contributed (either directly or through their contractors) in the CRMP through sponsorship of participants to Regional Training Courses:

Region/Country	Number of Participants	Amount
Latin America/Caribbean		
Belize	1	$1,100
Brazil	1	$3,900
Chile	1	$1,900
Colombia	1	$1,900
Costa Rica	1	$1,900
Dominican Republic	1	$1,900
Ecuador	1	$1,100
El Salvador	1	$1,900
Jamaica	1	$3,900
Mexico	4	$5,700
Asia		
Guinea	3	$11,700
Indonesia	2	$3,800
Kiribati	2	$5,800
Philippines	1	$3,900
Sri Lanka	8	$17,400
Thailand	4	$15,600
Other		
Cape Verde	1	$3,900
Ivory Coast	1	$3,900
Latvia	1	$3,900
Oman	1	$3,900
Tunisia	1	$3,900
USA (AAAS Fellow)	1	$1,900
TOTAL	**39**	**$105,140**

Additionally, the CRMP gave assistance to the following Missions without an add-on and, at no cost to the Mission in responding to specific queries.

Mission	Year	Topic	Result
Philippines	1993	Inclusion of CRM in Mission Portfolio	Visits (2) by L. Hale and A. White; SUSTAIN project design
Belize	1992	Making scientific/engineering needs for environmental monitoring and assessment of river systems in; and development of outer islands in Belize.	Consultations with Dr. Dan Urish (URI) and H.J.M. Wickremeratne (LHI, Sri Lanka)
Papua New Guinea	1993	CRM training course design options	Visit by B. Crawford (URI/CRC)
El Salvador	1991	CRM in Mission Portfolio	Coastal component of PROMESA
Maldives	1990	Analysis of storm damage requested by U.S. Ambassador	Report and recommendations. Maldive participation in Sri Lanka training
Panama	1993	Develop short and long-term proposals for a possible coastal resources management initiative in the Bahia de Parita, in conjunction with CECA, the Circulo de Estudios Cientificos Aplicados.	Visit and report by D. Robadue (CRC/URI)

Benefits of Add-ons

The add-on mechanism has been an essential feature of the Cooperative Agreement. In Thailand and Ecuador, both pilots were designed with anticipated Mission funding through add-ons. In the case of Thailand, Mission add-ons were received as anticipated until the coup halted U.S. foreign assistance in 1991. Anticipated funding for follow-on activities with CORIN did not materialize. In the case of Ecuador, anticipated levels of Mission funding were not received in a timely fashion nor at the levels stated in the project paper supplement ($100,000 annually was anticipated for FY '91-'94, but only $250,000 was actually received for this time period). Additionally, Mission funding was often not received until the end of the fiscal year in which it was budgeted (with great uncertainty prevailing about whether it would be received) resulting in an atmosphere of fiscal uncertainty making project implementation difficult. In Sri Lanka, Mission funding has expanded upon and sustained the initial centrally funded pilot.

Add-ons allow for complementary funding between central and mission/bureau projects, allowing them to be cooperative in nature. CRMP goals for regional outreach in Central America and Africa were able to go beyond the information dissemination level to further testing, refining and application of CRMP approaches through substantive projects in the regions. In this way both CRMP and Mission needs could be met in a cost-effective manner.

The CRMP has received add-ons and companion grants from other agencies including NOAA, EPA and Department of State. These add-ons have leveraged CRMP impact on leadership areas and has broadened the experiential and financial base of the CRMP.

Problems With Add-ons

- USAID's Changing Policy on Add-ons. While the Cooperative Agreement is designed to be augmented by add-ons, and the mechanism appears to be welcome by Missions (and is by URI), USAID's policy as to their support for use of this mechanism has been inconsistent. This makes it difficult to know at what level they should be pursued.

- Financial Reporting. A major difficulty with the add-on mechanism for Missions has been the USAID financial system which does not separately report back to Missions on expended funds. This is a problem well-recognized by Program staff both at USAID and URI (also recognized in the USAID-financed financial audit of the CRMP), but is beyond the control of program staff to rectify. To address this problem, URI sends quarterly expenditure reports to Mission program officers in countries where the Mission requests them (Sri Lanka and Thailand). These reports are, however, outside the "official" USAID financial reporting system.

B. Has the approach and philosophy of integrated CRM generated new ideas in Missions or Bureaus, for work in the coastal zone and elsewhere? Has the project proactively generated interest in Missions in new approaches, new technologies, and CRM in general?

The above tables illustrate the growing acceptance, of and interest in, CRM and its underlying philosophy. This increase in acceptance occurred during a decade when USAID policies and priorities, particularly in resource management and as a response to climate change, have shifted repeatedly and, for most of the CRMPs duration, there was a USAID context far less positive to CRM than in the 1994 Strategies. Despite these difficulties the CRMP has collaborated with three Missions (Sri Lanka, El Salvador, Philippines) to design major coastal management activities that draw directly from the project's worldwide experience. Major activities designed with the Thailand Mission were not funded following the coup.

Today the "two-track approach" developed by the CRMP is well established within the lexicon of many USAID officials. The CRMP has been featured twice in *Front Lines* and its approach and early accomplishments were showcased as

one of four major talks sponsored by the Administrators' Forum in 1989 and at USAID's Environmental Working Group in 1991.

C. Has the project leveraged assistance from other sources of funding?
The CRMP has been successful in leveraging significant resources to augment the R & D investment. Overall, the CRMP investment of $9.2 million has been leveraged to a project of $17.1 million, nearly "doubling" R & D's money. In the pilot countries CRMP has been particularly successful in this regard.

Ecuador: R & D funds accounted for 62% of total policy and planning funds (see also figures in section IIID). With this initial R & D investment, of $2.6 million, the CRMP has leveraged $16.5 million in implementation funds from the IDB and the GOE for the 1994-1999 period. These funds will be used to begin meaningful implementation of the ZEM plans, continued national policy development and further indigenous capacity building. The CRC will continue to provide the government of Ecuador with technical assistance.

Thailand: R & D funds accounted for only 26% of total policy and planning funds; resulting in each R & D dollar leveraging 3 dollars from other sources (see also figures in Section IIIC). From this investment the Royal Thai government committed over $2 million dollars for Coral Management Strategy implementation, several million dollars for construction of a sewage treatment plant in Patong, Phuket, and provided regular support of a CRM unit within ONEB..

Sri Lanka: R & D funds accounted for only 24% of total policy and planning funds resulting in each R & D dollar leveraging 3 dollars from other sources (see also figures in Section IIB). this investment has also leveraged a major GTZ project to educate the public in coastal management and assist CCD to limit coral mining.

The CRMP has been a policy and planning project that was not designed or funded to provide "bricks and mortar" or fund large scale policy implementation initiatives. Although the CRMP made it a policy to complete the transition from planning to implementation as frequently as possible, this was accomplished through "practical exercises" not full-scale implementation of a policy or plan. Thus, the CRMP was paralleled to the 305 planning phase of U.S. state CZM programs and did not attempt full-scale 306 implementation efforts.

The CRMP has been successful in leveraging funds for both the policy and planning phase of launching a first generation program

V.C: MODELS FROM THE PILOT PROJECTS; LESSONS LEARNED AND RECOMMENDATIONS FOR FUTURE ACTIVITIES

A. By what processes did the project select and adapt U.S. experience to developing nations?

CRC's U.S. Coastal Management Experience. We believe that USAID selected URI as the recipient of the CRMP Cooperative Agreement because the CRC as a university-based organization, had unmatched experience and first-hand familiarity with the practice of coastal management. Beginning in 1971, the CRC served as the policy and planning arm of the Rhode Island Coastal Management Program. CRC had designed and implemented a highly successful public participation program, conducted the research and then drafted the CRM plans and regulations that were formally adopted by the state and approved by the federal government in 1978, 1980 and 1983. The state program designed and drafted by CRC was one of the early programs to be approved by the federal government. Both it and the special area management plans developed by CRC in the early 1980s were considered national models at the time. The CRC Director had served as Chairman of the New York/New England Coastal Management Task Force, the Associate Director had eight years of experience working on CM plans and programs for native corporations in Alaska, and all CRC professional staff were actively engaged in coastal management. This provided a solid base of experience and familiarity with the U.S. experience that could be adapted to conditions in developing nations.

Coastal management has continued to evolve rapidly in the U.S. during the life of the CRMP. The project has continued to be nourished by this growing body of concepts and tools aided again by CRC's involvement some cases national leadership in estuary management, ecosystem management and volunteer monitoring. CRC's 25 years of experience in assisting our U.S. state and coastal municipalities to address coastal problems provides the organization with a rare understanding of the difficulties of implementation, and of getting as well as giving assistance and advice.

Adapting the U.S. Federal-State Relationship in Promoting Coastal Management. CRC saw its relationship with its counterparts in the three pilot nations as a reversal of its role with the federal government (OCZM in NOAA) as it worked to meet federal guidelines for a state CM program. We adopted what we felt were the most useful approaches taken by OCZM with state programs to our country programs as we worked to encourage the three pilot nations to make a commitment to coastal management. The CZM Act provided two incentives to states: funding and federal consistency. In the pilot countries, the CRMP offered only the funding incentive, backed by technical assistance and the offer of a sustained partnership. Constituencies for a coastal management initiative locally and within central government were far weaker than in the U.S., and the conditions for meaningful governmental mandate for Coastal Management (comparable to the CZM Act of 1972) had to be created.

In the early 1980s in the U.S., a consensus emerged within the CRM community that programs would survive and flourish if they succeeded in building constituencies at a variety of levels. CRC concluded from that observation that in developing countries building constituencies for improved management had to be a primary strategy. Building again on the U.S. experience we were convinced that constituencies are built when: (a) the program addresses issues of real concern to stakeholder groups, and (b) the governance process is viewed as transparent, equitable, and efficient. Thus, in both Ecuador and Thailand we placed a major emphasis on the process by which issue analysis and policy development was undertaken. We strove consistently to make this as participatory a process as possible always being cognizant of the very different cultural traditions of each country. The CRMP worked to attract local leaders and recognized national figures to the program's cause. In Sri Lanka, such participatory efforts, after initial success of the critical habitats workshop, was truncated by increasing civil unrest that forced the cancellation of public meetings, workshops and educational programs. In Thailand, the ONEB had strongly top down traditions and found participatory open-ended approaches unfamiliar and sometimes threatening. The CRMP had the greatest success in implementing its approach in Ecuador. However, in all three pilots participatory governance was expressed through public workshops, public involvement in each stage of profiling the issues in a given site, public involvement in setting initial priorities for action, and widespread debate and discussion amongst both private sector, stakeholders, and a cross-section of public sector agencies (many of which had never worked together before or were in conflict) to define and then formally adopt new natural resource policies.

A major lesson from the U.S. experience is that a partnership between the federal government and state programs are productive when they are based upon shared objectives and shared values. This in turn leads to trust and a constructive, truly collaborative relationship. Thus, the process of negotiating the JPA and first annual work plan became for CRC an exercise in building mutual trust and a foundation for a long-term collaborative relationship. Partnership implies equality between the parties. Each program was therefore structured around the concept of co-directors and the pairing of U.S. and in-country participants as equal partners in all elements of the program. This approach mirrored the one we had observed as most successful in federal/state relationships. OCRM respected state perceptions of priorities and appropriate approaches to complex issues and worked (with varying success) to avoid imposing its own "solution".

The CRMP Cooperative Agreement calls for an "open-ended" process by which programs would be designed. A Joint Project Agreement (JPA) sets forth the objectives, administrative arrangements and major activities of the pilot followed by detailed annual review of progress and learnings and annual work plans. The CRMP modeled the annual review and work plan preparation process on the 312 reviews carried out by the OCZM with individual state programs. This again fostered mutual respect and learning and an adaptive approach to how CM issues can be addressed effectively.

Selecting and Adapting U.S. Management Concepts and Tools. The CRMP approach was to make U.S. experience accessible to pilot country policy makers and professionals, and through discussion, evaluate its relevancy. The CRMP served to stimulate creative approaches to CM in the pilots rather than promote a simple "technology transfer". The U.S. experience was made available to our partners in the pilot countries through:

a) Study Tours were an important means for introducing our pilot country partners to U.S. experience and the context within which CM occurs. It was very useful for our partners to see the successes - and the failures - first hand and to discuss the experience with U.S. officials, user groups and observers. CRMP carefully selected the states that were visited and the people met to provide perspectives, concepts and tools being considered as potentially appropriate for the home country. Study tours had the additional benefit of promoting friendship and a sense of joint purpose among the pilot country participants - this was particularly important for the Thailand pilot where collaboration among several government agencies was essential to progress.

b) Publications have helped convey the U.S. experience. Many copies of U.S. plans, legislation and educational materials were distributed. Where summary statements were not available, the CRMP worked to fill the gaps, for example:

- an overview of coastal management in the U.S. (Archer, 1988)
- the CRMP/NOAA case studies of state CZM programs (Needham ed., 1991)

c) Attendance at Management Conferences and Symposia in the U.S. The project has sponsored, or helped sponsor, pilot country collaborators so that they can attend the semi-annual Coastal Zone conferences. This provides exposure to a cross section of U.S.- and increasingly international - CM experience and an opportunity to make personal contacts. Showcasing pilot project experience and successes has been rewarding. Attendance at such events can be an important feedback loop for government officials who otherwise may receive few personal rewards for collaborating with the project.

d) Training Courses. All CRMP training courses contain extensive materials and convey concepts and tools developed in the U.S. Much discussion focuses on the adaptation of such experience to the social/economic contexts of other nations.

e) Sustained Relationships with U.S. Advisors. Senior policy advisors selected for their long experience in shaping U.S. programs have played a pivotal role in the design of the first generation programs in the three pilot nations. William Matuszeski was the Deputy Administrator of OCZM when federal approval for the greatest number of state programs was negotiated. His participation in the Ecuador program was critical to both the institutional design for that program and to building constituencies within several ministries of Ecuador. Malcolm Baldwin (formerly chairman of CEQ) played a similar role in Thailand and Ken Lowry

(chairman Urban Planning Dept., University of Hawaii) has been an important mentor and shaper of the Sri Lanka program since the early 1980's. At a more technical level, such participants as Jen Boothroyd, Candice Oviatt, William Herrigan and Michele Lemay have brought the best of U.S. experience in their respective fields and worked with their in-country collaborators to adapt such experience to a new context.

Adaptations, in some cases, transfer of U.S. management concepts and tools have occurred at many levels. The following list illustrates the diversity of topics and is by no means all-inclusive:

- permit procedures (Sri Lanka CZM Plan)
- shorefront management tools (all pilots)
- public access to shore policies (all pilots)
- public education techniques (all pilots)
- school curriculum (Ecuador, Thailand)
- public meeting and public workshop procedures (all pilots)
- "facilitated meeting" techniques (Sri Lanka, Ecuador)
- SAM planning, local government roles (all pilots)
- mooring buoy technology (Thailand)

In all the pilots, the effectiveness of government in general and of regulation in particular, is much less than in the U.S.. Hence, non-regulatory approaches to resource management have not been a dominant thrust in the pilot countries.

B. What revisions in the PP were necessary because of differences in context or other factors?

The miscalculation of the original PP and a lesser degree in the 1990 supplement was the amount of time required to create constituencies and obtain formal meaningful commitments, both within central government and at the local level, for new CM policies and procedures and their subsequent implementation. The CRMP team often reflected on the U.S. experience. Here, within a much more favorable context, the planning phase for state CZM programs, although originally envisioned as lasting two years, in practice often required five years or more. The second reason for revising the PP was the rapid increase in interest in coastal management worldwide that generated the demand for a major outreach program.

C. What positive and negative lessons were learned about the design and implementation of USAID-funded CRM projects to be applied elsewhere?

The basic design of the CRMP was sound; a long-term partnership with three nations to launch CM initiatives followed by worldwide outreach and training. These three activities, when combined with an incremental and adaptive

approach to all tasks and a collegial and constructive relationship between the Directors at CRC and the USAID/Washington Project officer as we worked to refine the project design and target its implementation, fostered positive outcomes.

Lastly, expectations of coastal management program outcomes have been informed by the U.S. program. Process-type outcomes were typically achieved by coastal programs in the U.S. within the initial 5- to 10-year period. Obtaining changes in environmental condition takes even longer. Outcomes measurable as improved environmental quality (improved water quality, recovered coastal habitat, etc.) have been obtained and documented only relatively recently in the United States, and typically after substantial capital investments.

Strengths in Design/Implementation

- The initial decision to make a long-term investment in selected pilot projects rather than providing less focused technical assistance to many countries on a range of topics has been a major strength. The long-term commitment to pilots enable "experiments" in governance to be designed, implemented and evaluated. It was from these sustained efforts that the major learnings of the CRMP emerged that can be applied to other developing nations.

- Complementing the three pilots with significant outreach and training encouraged CRC to draw lessons from the pilots and apply them to both global audiences and specific other nations. It was important, however, that URI//CRC was permitted to develop these elements after initial experience in the realities of CM in developing nation contexts had been gained.

- Central to the project's success has been the acceptance of an adaptive, incremental design that encourages risk taking and permits abandoning unpromising initiatives. The tradition of an open, highly participatory annual review of progress and problems where both in-country and URI-based staff are present and participating (often over several days) has proved essential to team building and modeling a strategic approach to CM in the pilots. The analogous annual program review and project Board meeting has allowed a similar approach for the Outreach Activities contained in the URI-based work plan.

- The CRMP's dedication to building cadres of experienced and "empowered" CM professionals in each pilot nation is paying handsome dividends. We conclude that wherever possible the in-country manager should be a national and that professionals should be favored in the program as full-time project staff or as national consultants over short-term expatriates. This project sponsorship is necessary as it is often unrealistic to expect that the host government will provide such in-country staff and pay adequate

salaries. Here again, the U.S. CRM experience is useful. It is common practice for state agencies in the U.S. to hire new staff with federal funds for federally-sponsored activities—particularly in the environmental management field with federal rather than state funds. If and when such programs build constituencies and local support, such staff are eventually put on state payrolls. This model has held up well in Ecuador where the majority of project-supported staff will work for the GOE during the next phase of the program.

- Revenue-based training has proved cost effective and tends to self-select for motivated trainees with a real interest in pursuing coastal management as a profession. However, the current project has no vehicle for providing scholarships or continuing support to promising individuals.

- An outreach program and "add-on" capability have been essential in the selection of activities and targeting of efforts when attempting to initiate a CRM program. This is best reflected in the strategies for Central America and the design of national initiatives for El Salvador, Philippines, Mexico, and most recently, East Africa.

Weaknesses in Design/Implementation

- The pilot projects failed to establish an adequate baseline, with preselected indicators of (1) perceptions of CM issues and their implementation for society (2) governance process and structure, and (3) condition and use of selected resources/ecosystem processes. Such indicators are now a "hot" topic within USAID—but this is a recent development. Furthermore, such baselines are conspicuous in their absence not only in the U.S. CRM programs but in other environmental programs in the U.S.—most notably the estuary rehabitation efforts undertaken through the Clean Water Act. CRMP is working to develop a protocol for (2) above (see Section IIE).

V.D: SCOPE

A. By what process and under what rationale were decisions of scale and scope made?

For the pilot projects the CRMP in all cases attempted to launch or strengthen a CM initiative that was national in scope. To do this we adopted a two-track strategy. Although ambitious, our attempts to influence national policy and national governance structures was important and worthwhile since local governance and ecosystem degradation issues are always expressions of driving forces at a larger scale. In all cases, decisions on the scale and scope of individual activities and the size and number of SAM sites was made with our in-country counterparts following the procedures outlined in Task 3(a). It was important that all decisions were not made at the onset of each pilot when we knew the least. Thus:

- The selection, scale and scope of SAM planning in Ecuador was decided in Year 4 after an intensive, highly participatory process of issue definition and analysis. The decision was negotiated directly with the Office of the President as well as with strong inputs from participants at the provincial level where the selection of pilot scale sites was discussed at the second round of Fundacion Maldonado profiling workshops.

- In Sri Lanka, attempts to initiate Special Area Management sites were frustrated by the civil war. The decision to embark on a national scale "second generation" issue analysis and strategy formulation process was made in Year 4. Coastal 2000 succeeded in building support for CM within many agencies and the national cabinet which formally adopted this plan in 1993. A SAM initiative got underway in Sri Lanka under the Mission-sponsored NAREPP Project in 1992.

- In Thailand, the initial concept (as detailed in the JPA and first annual work plan) was to focus on coordinating and promoting the implementation of existing policies, plans and regulations in Phuket province. In the first year of the project a governor highly supportive of this concept was replaced by a governor hostile to the philosophy and objectives of the project, who refused to convene the critically important inter-institutional Phuket Action Committee assembled by his predecessor. The CRC/ONEB team together subsequently decided to focus the Phuket effort on a far more limited agenda—a national coral reef management strategy (see Hale and Olsen article in *Oceanus*, 1993).

The Outreach Program is managed as a collaborative effort by the CRM Project Officer and the CRC Associate Director, Lynne Hale. Decisions on the scope of activities undertaken and the setting of priorities is discussed and agreed upon with reference to annual work plans. Periodic input is received from the Board.

B. Could larger areas and more sectors have been addressed or did the project overreach?

The CRMP has had a tendency to overreach. In large measure this has been based on our lessons learned in the United States that unless an initiative is significant enough to get on the "political agenda" of a nation, the forces required to adopt a significant program and significant policy reforms will not have the salience to command attention. Thus, although Phuket was a large and complex province in the midst of a development boom, we felt it would be highly visible and therefore appropriate as a showcase for a CRM initiative. In Ecuador it became politically imperative to have a ZEM site in each province. When the President's office added two additional ZEMs (Valdivia and the Galapagos), we did not feel that it would be useful or appropriate to refuse to collaborate and attempt to stretch already insufficient funds to additional sites. Despite some additional funds from the Tinker Foundation, the project did not have the capacity to follow up on a ZEM process in Galapagos.

The project team feels strongly that larger areas or more sectors could not have been addressed effectively in the pilot countries. The CRMP team does, however, have the capability to respond to a broader range of issues through its outreach program. At this time, however, Missions and other donors are asking very general questions that revolve around "how do we get started?":

C. Was the project's attempt to build constituencies for CRM successful?

The answer to this question lies at the heart of the CRMP project team's own assessment of progress. Measurable progress "to slow or reverse the degradation of coastal resources in the pilot countries" must begin by building the cadres of people—both at the local level and within central government—that will actively work for and will advocate improved resource management. Without constituencies on both tracks no coastal management initiative will be sustained.

Indications of the existence of constituencies in each of the pilot nations are as follows:

In Ecuador

- At the ZEM level the comites asesor have drawn sustained participation from large numbers of people (20 to 60 in each ZEM) over four years. These people are not paid for their time and have stated repeatedly that the ZEM governance system and the opportunities it offers to resolve conflicts and effect the outcomes of the development process is both rewarding and necessary. ZEM committees have lobbied hard and sent frequent telegrams to high officials during the transition from the USAID to IDB-funded projects urging sustained support for their activities.

- The practical exercises (see Robadue, Epler, Olsen, 1993) have drawn in-kind contributions of 50 to 90 percent.

- The water quality and mangrove working groups have been sustained over many years and their members advocate the PMRC's commitments to issue driven, participatory management.

- At the national level the GOE identified continuation of the PMRC as a top priority to the Inter-American Bank in 1992. Active support among the four ministries represented on the National Commission is expressed by their support for Executive Decrees 375 and 3399.

- The decision of the Sixto Duran administration to assume an IDB loan to fund the program designed under another administration (Borja) and add to the national debt at a time when cutting back government and reducing the debt burden is a top priority is another testament to the strength of constituencies for the PMRC in Ecuador's central government.

- The press (newspapers, TV and radio) have sustained extensive coverage of PMRC activities and the issues it is addressing since 1987; such sustained interest is an indicator that substantial interest, and presumably constituencies, exist.

In Sri Lanka

- The core staff of planners at the Coast Conservation Department that have received overseas degrees through the CRMP have remained with the program despite low salaries and opportunities for higher paying jobs elsewhere.

- The many experts who prepared the materials for Coastal 2000 were willing to work without remuneration (at one stage USAID/Colombo disallowed any payments for additional work to government employees).

- Despite strong rhetoric that development must proceed rapidly and without impediments the cabinet has formally approved both the CZM Plan and the Coastal 2000 Strategy—documents that are designed to mitigate the environmental impacts of economic growth.

- Similarly, broad-based support for the integrated resource management initiatives of the program consistently are supported by agencies of government and the private sector at workshops in Colombo and the SAM sites.

In Thailand

- The ONEB staff assigned to the CRMP pilot, Khun Chartree and Khun Ampan, are both pursing their careers in ICM. Similarly, the group assembled at Prince of Songkla University to form CORIN are dedicated to working for the success of that organization. The Thai government is funding both initiatives.

- The Thai government is also funding the implementation of the Phuket SAM Plan and the coral reef management strategy.

- The bottom-up approach to natural resource planning and management pioneered by the CRMP in Phuket is now an institutionalized process in all provinces that is mandated and funded by central government.

D. How successfully did the project prioritize and address:

1. Sustainable development of natural resources. See

- the five ZEM plans for Ecuador
- the summary 1994 papers on the issues addressed by the CRMP in Ecuador.
- the Phuket SAM Plan
- The Thailand coral reef management strategy
- The Sri Lanka CZM Plan
- Coastal 2000

2. Environmental assessment?

- see technical report by Sorensen and West (1993)
- review EI module for Summer Institute training
- See pertinent sections of the Sri Lanka CZM Plan

All CRC plans, including the ZEM Plans in Ecuador, the proposed Sustainable Mariculture Plan for Ecuador, and the Thailand Coral Reef Strategy, are based on "findings of fact" that emerged from an assessment of the environmental impacts of the many activities affecting the condition and use of that particular area or resource. We believe that being explicit and documenting such cause and effect linkages and impacts is the essential precondition for any policy or program and must be communicated if constituencies to support those programs are to be built.

Formal environmental impact assessments are only useful if and when the process of identifying environmental costs can lead to appropriate action. If the governance machinery is not in place to act upon such information or if the pressures are great to "develop at any cost" an impact assessment is not useful. In Phuket for example, an impact assessment on the ring road that will bring greater changes to the environmental quality of the west coast of the island than any other single action. Its construction prompted an EIA but it was carried out only in the final stages of road construction. In Ecuador at a national scale central government has stated repeatedly that the impacts of further destruction of mangroves are negative and that therefore further cutting should not occur. In essence this is "impact assessment" within national policy making. The laws and regulations, however, to put such realizations into practice have proved repeatedly to be dysfunctional unless there is the will to implement such regulations locally.

3. Natural Hazards Abatement. See

- Chapter on erosion management in the Sri Lanka CZM Plan
- The atlas and management recommendations for coastal Ecuador (Boothroyd, Ayon and Robadue, 1994)
- See training modules on storm hazards and shorefront management

The coastal erosion planning and regulatory process in Sri Lanka is directed at the abatement of natural hazards brought by storms and coastal erosion processes, both natural and manmade. In Ecuador the shoreline management handbook and subsequently the specific policies and actions in the five ZEMs are also expressions of our approach to natural hazards expressed as coastal erosion, storm damage, building on unstable land forms, etc.

In our view, rising sea level is a secondary issue that can only be tackled if very real and immediate problems of today show themselves as being tractable to management. Since the Ecuadorian coast is emerging at a rate comparable to that for predicted sea level rise, this expression of global warming is not a significant issue for that coastline. This is not the case for Sri Lanka. It was, however, our judgment that from a strategic perspective it made the most sense to deal with the issue of rising sea level in Sri Lanka along as yet undeveloped coastlines where there was still an opportunity to place infrastructure and therefore direct development further back from the coasts then have occurred during the British colonial era when roads and railroads were built along the landward edge of the shore (see Coastal 2000).

4. Institutional Process, Organization and Capacity. See

- Handbook (Olsen and Hale in prep) prepared for training courses.
- White and Samarakoon article, "Special Area management for Coastal Resources," Issue #2 of the Coastal Management in Tropical Asia Newsletter
- Perez and Robadue (1986), "Institutional Issues of Shrimp Mariculture in Ecuador"
- Panat report on the institutional framework for CM in Thailand
- See institutional design of CM programs in each pilot country.

In all pilot projects we viewed this issue as the priority impediment to sustainable and effective CM programs. Without an adequate institutional foundation and capacity for management, no meaningful progress towards more sustainable forms of development can be made. In each country a major dilemma for the CRMP was the amount of effort and resources that should be expended upon existing public sector institutions as opposed to building constituencies and governance structures in the private sector or "inventing" new structures that integrate across the public and private sectors. In Ecuador our conclusion was that to attempt to build an effective coastal program within existing institutions of central government would be doomed to failure. This conclusion was subsequently reached by A.I.D. and other donors which have drastically reduced funding to the Department of Agriculture and EOS (by statute responsible for

water quality and sanitation). In Ecuador the decision was to "invent" new governmental institutions in both tracks. The result was a semiautonomous unit reporting directly to the Office of the President (the Direccion Ejecutiva in Guayaquil) and to committees that eventually combined both private and public sector representatives in each of the ZEMs and that have assumed functions for planning, policy setting and decision making.

In terms of universities, the CRMP was quite successful in building capacity at two partner universities, PSU and ESPOL. We also have assisted considerably in raising visibility and capacity at Silliman University through contracts, training and presentation of a training course. In addition to this is the considerable involvement there has been with faculty members at other universities, through consultancies, and participation in training courses. The CRMP has hosted many faculty members at URI when they have come to study (the three Thai PhD students are an example) or for sabbatical (e.g., Mariano Montano from Ecuador).

5. Community Participation in CRM Programs

- Olsen and Hale editorial in People and the Planet (1994)
- Olsen 1993
- Hale and Olsen article in *Oceanus*

A natural consequence of a two-track strategy and an initial focus on microcosms in which to work out the concepts and mechanisms for integrated resource management is that participation at the community level within such SAM sites becomes a major feature of the CRMP. If one accepts that the challenge is to modify human behavior and that such change needs to occur at a societal, not merely an individual level, then community participation becomes crucial. The civil war in Sri Lanka prevented such work between 1986 and 1991 and our difficulties with the Governor in Phuket complicated community level action within that SAM site. The strategy has been allowed to play out most fully in Ecuador. Here the expression that community participation has taken across the five ZEMs has varied considerably and we are still in the process of extracting the lessons from this experience and understanding the forcing functions to which such differences can be attributed. Measures of community participation can be grouped into indicators of the process and outcome such as:

- Level of participation in ZEM committees
- Creation of user groups and formalization of their structure and procedures
- Activity by UCVs in terms of patrolling, issuing cease and desist orders, making arrest, etc.
- Examples of conflict resolution utilizing the above structures
- Participation, refinement and formal adoption of integrated special area management plans
- Participation in practical exercises and in-kind contributions to them.

One of the major accomplishments of the ZEM level activity was our success in communicating that a governance process is not about "works" (obras) that

perpetuate the paternalistic traditions of a government structure that provides a repaved road, a new school or yet another dysfunctional water system but a process that empowers locals to take responsibility and to assume some control over the conditions and trends of the ecosystem upon which they depend and of which they are an integral part.

V. E: TRAINING

A. Did Approaches Establish Cadres of Professional CRM Staff in the Host Countries?

There were two primary means of developing a cadre of professionals; learning-by-doing and structured training. Learning-by-doing refers to the work that all in-country professionals were involved in over the life of the project. This was the primary means of developing cadres of experienced coastal management professionals. Host country professionals learned through experience and by working with outside advisors who helped guide and facilitate the work of in-country teams from universities, government, and NGOs.

The other means of establishing a cadre of host country CRM professionals was through structured training activities. Training activities alone are not sufficient to establish cadres of professional CRM staff, but built on and complemented the development of competence and experience gained through day to day project work activities. Training activities included a wide range of structured events in the host country, in the US, and, on occasion, in third countries as called for in the 1985 project paper (Pp. 35,41,46). Activities included degree training, short-term training, study tours and attendance at international conferences. Pilot country training activities are documented in the working paper *"The Coastal Resources Center's Training Experience"* and are outlined for each pilot in the respective sections of the briefing book. The following is an excerpt from the experience paper which provides examples of how individuals who developed competence as CRM professionals were supported by training activities:

> *"... The CCD Director and founder of the Sri Lanka Coastal Zone Management Program, Summa Amarasinghe. was sent to attend many international Coastal Zone Conferences. CRC helped get him appointed to the Board of the International Coastal and Oceans Organization and was influential in getting him to participate on international panels at conferences. This high level of visibility helped portray the Sri Lanka program as a leader internationally and enhanced credibility of the program back in Sri Lanka. ..."*
>
> *"... CCD has also been able to send planning division staff to the URI Summer Institute. One of these individuals, Dianeetha Sadacharan, Planning Manager, recently left the agency and now works with the newly formed Coastal Zone Management Center in the Netherlands. She has also continued a relationship with CRC and participated as a core trainer of the Sri Lanka module in the 1994 Summer Institute in Coastal Management. Another, Rana Samaranayake, formerly with fisheries, has filled the vacancy as Acting Manager of the Planning Division. Mr. Ranasinghe, with a Master's in regional planning, has moved up to a Deputy Planner vacancy, and Mr. Thilakaratne is expected to be promoted to an Assistant Planning Manager on his return from graduate degree training. ..."*
>
> *"... once CRC started to conduct regional and international training courses in coastal management, many project staff had opportunities to receive formal training in this area through attendance at these courses. All three of the PMRC executive directors (Miguel Fierro, Eduardo Hurel and Javier Duenas), the current PMRC technical director (Dr. Segundo Coello), a member of the mariculture working group from INP (Nikita Gaibor), four ZEM field staff, the*

former USAID/Ecuador project officer (Fausto Maldonado), and an IDB project officer (Francis Peacock) who initiated the Ecuadcr CRM Bank project have all received formal training. In the case of the current Technical Director, Dr. Coello, attendance at the Summer Institute was his first exposure to coastal management. After the course he became very involved in mariculture diversification tasks as well as in the writing of the ZEM plans,. Because of his training and experience, Dr. Coello has been appointed as the government program's Technical Director. ..."

"... One member of the water quality working group from ESPOL, Mariano Montano, also spent a six-month sabbatical at URI studying water quality analysis methods and water quality management. ..."

"... Ricardo Naboa, a GIS and shorefront management specialist spent several months at URI working with Don Robadue and Dr. Jon Boothroyd, a URI geology professor on a GIS mapping project. This activity was programmed and coordinated as a mapping task, but was equally a hands-on, on-the-job learning activity. ..."

In addition to training activities, the *university strengthening* portion of the USAID/CRMP program established cadres of trained professionals at Prince of Songkla University and at ESPOL by way of formal education, training courses, and on the job training through involvement of staff in research, management and education projects.

B.1 Were Training Staff Technically and Pedagogically Qualified?

Pilot Countries: Most of the training activities for the pilot countries was provided either by CRC staff, external experts or from the core group of CRM professionals within the pilot. The majority of in-country training events, particularly at the local field sites, were conducted by host country nationals who were members of the core project team, or national consultants. Knowledge of local language and culture gave in-country staff an edge up in many situations over foreigners. In Ecuador, many CRC staff had Spanish language capability and contributed to some of these events. CRC staff contributions to pilot country training events concentrated on CRM policy and planning, and experience from the US and other pilots. Foreign experts were brought in-country for specific technical training needs when such skills were not available locally. A list of external trainers used for pilot country training is provided in Table 2 of the CRC working paper, "*The USAID/URI Coastal Resources Management Projects Training Experience.*" In some cases, translation was provided when needed, and in others, the local training group had sufficient command of English. Pilot country training conducted by CRC staff and external experts focused primarily on core national groups. The project's emphasis on building a national core group of CRM professionals through training of the core team - a technical training of trainer's approach - led naturally to further diffusion of knowledge and skills to others in-country by our local colleagues. Ecuador in particular, and more recently in Sri Lanka, skills building in training methods was added to skills building as CRM practitioners, to enhance the effectiveness of in-country training as well as international outreach training events.

International Courses: A list of trainers used for international courses and their backgrounds and qualifications is attached. International training courses as an outreach strategy were not implemented in the first five years of the project. Emphasis in these years was placed on developing a cadre of professionals in the pilot countries. During this period, CRC staff developed experience working in a developing country context as well. This also provided time for project results and outcomes to surface and allowed lessons learned to be extracted for use in the international courses. International courses used CRC staff as lead trainers along with experienced staff from the pilot countries and the partner institutions hosting the regional training events. US coastal management practitioners and URI faculty were used in the Summer Institute, primarily in a specialized capacity for US case studies or for specific technical sessions such as on GIS and physical coastal processes. Training of Trainers programs were an important element of taking skilled technical experts and CRM practitioners, and molding them into skilled trainers who could utilize modern adult, experiential and participatory training methods. Course participants have often remarked that the project's international outreach courses are different for two main reasons: (1) extensive use of developing country trainers alongside CRC trainers, and, (2) the use of adult learning, experiential and participatory training methods.

B.2 Was Curricula Appropriate and Sufficient?

The 1985 Project Paper outlined a number of general training needs for the pilots and made specific statements about two of the countries (Ecuador, p. 41; Sri Lanka, p.46). Country Program Managers played key roles in defining training needs and participants for training. In 1988, a training coordinator was hired by the project as recommended by the training issues team (Cobb, et. al. 1987) who worked closely with in-country staff and program managers to develop country training strategies. A review of training needs and activities were incorporated into the annual work plan process. Budget constraints vis a vis priorities and the desires of in-country clients, were key factors in determining what was actually carried out. In all countries, a major emphasis was placed on coastal management policy and planning which was viewed as a top priority. In Ecuador, technical training in key issue areas such as mangroves, water quality, and GIS/shorefront planning were also high priorities.

The regional outreach courses placed primary curricula emphasis on coastal policy and participatory planning, in addition to illustrating examples of regulatory and non-regulatory management tools for key issue areas such as management of coral reefs, mangroves, water quality, and shorefront development. Regional courses emphasized pilot country and other regional experience, whereas the Summer Institute included pilot country experience as well as experience from the US. Prior to the implementation of the international courses, much preparatory work was conducted to compile and review curricula on existing CRM training courses and educational programs. In addition, a survey of senior mangers in US coastal management programs was conducted to get a sense of what the priority needs were from the perspective of well established programs with 20 years of experience.

C. Did Training Programs Adapt and Build on Experience?

There was much cross-fertilization between the pilot countries with respect to training needs and how best to carry them out. This function was primarily carried out by the CRC training coordinator who was involved with providing training support to all three pilot countries. Training assessments and strategies were prepared for the pilots, which were constantly reviewed as part of the annual work plan process and modified as required. Informally, core CRC advisors and staff who were typically involved in all of the pilot countries, also provided for building on experience from each pilot and adapting it to the other pilots through structured training events as well as through mentoring local colleagues. The development of international courses and materials for training also took on a very adaptive and iterative approach to development. Training methodology and content for these courses were constantly evaluated and lessons learned extracted and adapted to subsequent regional courses and the Summer Institute. In particular, development of curricula for the international courses provided a catalyst among core trainers within the pilots and at CRC, to distill lessons learned and hone key messages for dissemination. Curricula for the regional courses was modified at each iteration, with new information and activities incorporated as experience from the pilots continued to evolve. This linking of international course curricula with real field experience in the pilots, by individual trainers who view themselves as field practitioners, is a cornerstone to the quality and overwhelmingly positive responses of participants to our international courses.

D. How Could Each Component be Improved?

- The current repertoire of international courses allows us to reach out and influence a large number of individuals in many nations. However, opportunities are not provided for the most capable and promising of these individuals who could return to a continuing series of more diversified, project sponsored training events. Such events could build on the initial course and constantly improve their capacity, as well as help them network with colleagues, and keep updated on state-of-the-art in the field. A series of continuing educational training programs which fully funded participants to such opportunities could help establish a core group of global leaders in coastal management.

- Current resources allow follow-up primarily with international course participants from the pilot countries. Many opportunities for follow-up with course participants from non-pilot countries have presented themselves. If taken advantage of through personal visits in their countries by experienced CRMP practitioners at strategic times and for strategic events, this could greatly enhance the value added to the training investment.

- Additional resources can be provided to further refine and improve the quality of international course training materials which can be more widely disseminated through a university and training network.

- In addition to the extensive evaluations already conducted for international courses, more resources are necessary for implementing post-course impact evaluations on participant individual performance, their influence on their organizations, and ultimately, on improved environmental quality and resources management.

- Pilot Programs need to develop training strategies in the first year of initiation of a long-term field program. Emphasis should continue to be placed on building national and field site core groups of coastal management planning and implementation practitioners. Training needs to be integrated and institutionalized into all elements of long-term country programs. Building long-term training and educational capacity needs greater priority and emphasis at an earlier stage in the life of long-term country programs.

- A more expansive view of training is required which integrates human resources development and institutional strengthening into capacity building for pilot and global/regional programs.

- Primary criteria for CRMP training should be placed on :
  - quality training events, trainers and materials
  - high impact on individuals and organizations relative to the investment
  - maintaining global leadership in coastal management training
  - integration with pilot programs, institutions and practitioners

Trainers Used for International Courses

Trainer	Expertise/Qualification	Course(s)	Topic(s)
CRC			
Stephen Olsen	20 yrs. US CZM exp., 10 yrs. intl. ICM exp.,MS Oceanography	SI 91,92, 94, ESPOL 93, 94	Intro to ICM, Sustainable Dev. Policy Process, Strategic Design of ICM programs
Don Robadue	15 yrs. US experience, 9 yrs. intl exp., MS Planning	SI 91,92, 94, ESPOL 93, 94	Ecuador Case Study, Water Quality Mgt., SAMP, National Policy & Eval.
Lynne Hale	15 yrs. US CZM exp. 9 yrs. intl ICM exp. MS Oceanography	SI 91, 92, 94, PSU 92 SU 93	Thailand Case Study, Public Ed. & Part., Management Techniques, Strategic Design of ICM programs
Alan White	15 yrs. ICM exp in Asia PhD Geography	SI 91, PSU 92, SU 93	Philippines Case Study, SAMP, Protected Areas
Brian Crawford	12 yrs. intl training exp. 10 yrs. fish. & ICM exp. MA Marine Affairs	SI 92, 94, PSU 92, SU 93	Management Tech., Adult Learning, Philippines Case Study, Field Practicums
Virginia Lee	15 yrs. US ICM exp. MS Oceanography	SI 91, 92, 93	Rhode Island Case Study, Shorefront Mgt.
Pilot Countries & Philippines			
J.I. Samarakoon	PhD zoology 8 yrs. ICM exp in SL	SI 92	Habitat Mgt.
D. Sadacharan	CCD Planning Manager (10yrs exp in SL) MS Zoology	SI 94	Sri Lanka Case Study
S. Coello	Tech. Dir, PMRC, mariculture specialist. Ec. 4yrs ICM exp. PhD Fisheries	ESPOL 93, 94 SI 94	Ecuador Case Study, SAMP, Mariculture and Water Quality Mgt.
M. Aguero	10 yrs. intl exp. PhD Mar. Res. Econ.	ESPOL 94	Resource Econ., Valuation Tech.
B. Abregana	President SU PhD Human Res. Dev.	SU 93	Bais Bay Case Study
E. Delfin	Professor social work 10 yrs. com.-based CRM exp.	SU 93	Apo Island Case Study, Socioeconomic Profiling Tech.
N. Calumpong	Dir. SU Marine Lab 10 yrs. community-based CRM exp., PhD Botony	SU 93	Bais Bay and Apo Island Case Studies, Coral Reef Monitoring Techniques
S. Boromtharat	Director CORIN/PSU PhD Marine Science	PSU 92	Pak Panang Case Study
N. Sri chai	Professor, PSU PhD Science education	PSU 92	Publuc Education Tech.
B.Charjaroenwatana	Professor, PSU MS Planning	PSU 92	Pak Panang Case Study
Emilio Ochoa	8 yrs. exp. in ICM Ec. Lic. Sociology	ESPOL 93, 94	Public Education and Part. SAMP, ICM, national policy
Washington Macias	8 yrs. exp. in ICM Ec. Lic. Sociology	ESPOL 93, 94	Public Education and Participation
Luis Arriaga	Project Dir PMRC, 9 yrs ICM exp., PhD Fisheries	ESPOL 93, 94	Ecuador Case Study
Alejandro Bodero	8 yrs exp. PMRC Ec. BS Forestry	ESPOL 93, 94	Mangrove Management
Hector Ayon	8 yrs exp. PMRC Ec. Eng. Geology	ESPOL 93, 94	Shoreline Processes

Trainers Used for International Courses (continued)

Trainer	Expertise/ Qualifications	Course(s)	Topic(s)
URI Faculty			
Niels West	Professor, Marine Affairs	SI 91, 92, 94	EIA, Tourism Dev.
Jon Boothroyd	Professor, Geology	SI 91, 92, 94	Coastal Geomorphological Porcesses
Tim Tyrell	Professor, Res. Econ.	SI 94	Tourism Development
Jon Sutinen	Professor, Res. Econ.	SI 94	Compliance & Enforcement
Tom Grigalunas	Professor, Res. Econ.	SI 92, 94	Valuation, Benefit/Cost Anal.
Marian Feeney	Professor, Res. Econ., Cooperative Extension	SI 92	Leadership skills
Dennis Nixon	Professor, Marine Affairs	SI 94	Coastal Management in the US
Peter August	Professor, Nat. Res. Sci.	SI 91, 92	GIS
Malcolm Spaulding	Professor, Ocean Eng.	SI 91, 92, 94	GIS
Rhode Island Practioners			
Caroline Karp	Brown Univ., Former Dir., EPA Narragansett Bay Project	SI 94	Estuarine Management & Water Quality
Grover Fugate	Director RI-CRMC	SI 94	Coastal Mgt. in RI
Mark Imperial	Policy Specialist, RI-CRMC	SI 94	Estuarine Mgt. in the US, Public Part. Tech.

V.F. DISSEMINATION

A. Has dissemination of information from the project served a catalytic role in demonstrating and publicizing needs and opportunities for CRM in development ?

CRMP has had a major role in demonstrating and publicizing the need for CRM

• **in the pilot countries** through constituency building efforts (see Sections II B, C,D).

• **in Central American nations** through the Agenda-setting national strategies and Regional Workshop (see Section III B).

• **within USAID** Bureaus and Missions through presentations, articles in Frontlines, and regular interaction with USAID professionals (see Section III B and C).

• **within the donor community and the UN system** through attendance at expert meetings, CRC training courses, special projects, publications and professional meetings (see Section III B, C and D).

• **within the practitioner and academic community** through training courses, publications, global and regional newsletters, and conferences (see Section III B, C and D).

B. Did publications, workshops, and networks reach intended and appropriate audiences? What impacts have they had? Should they be continued? and if so with what modifications?

The primary target audience for CRM I outreach and dissemination efforts has been practitioners, broadly defined. We define practitioners to include

• Government officials working to establish and implement CRM programs.

• NGOs working to address coastal problems.

• Donor agency personnel designing and overseeing coastal programs.

• Academics working to catalyze and support coastal programs.

We have reached this group through all the vehicles described in Section IV. The impact of these events is difficult to measure, especially outside of the training program and materials. As shown in Section III D, however, demand for both CRMP publications and services to provide workshops and training programs keep increasing. Our combined regional and global newsletters reach over 5000 individuals; and in 1992 - 93 alone, we distributed over 6000

volumes of CRC publications. The impact of the publications and newsletters is positive. The results from a 1993 survey of INTERCoast readers as to their views on the newsletter were exceptionally positive. The continuation of the Asian CRM network and newsletter by the CRMP was similarly received with enthusiasm by that community. We anticipate an even stronger positive reaction for the Spanish-language FARO, for in Latin America there are no significant CRM communication vehicles, coastal management activities are rapidly expanding, and the need for information exchange great.

The impact of our training activities and materials (see Section III E) are somewhat easier to trace.

International Outreach Training programs have reached 194 individuals in government, NGOs, universities, research institutions, development organizations and private consulting firms from 49 countries. Training as a means of dissemination of project experience, has also had impacts on other donors through the training of their personnel. CRC has trained personnel from many donor organizations including; UNEP/OCAPAXC, FAO, USAID, the Inter-American Development Bank, the Japanese International Cooperation Agency, and, ICOD/Canada. We have had specific requests for training staff from UNEP/OCAPAC and the World Bank. While the UNEP training was conducted, we have not been able to take advantage of the World Bank offer as of yet due to scheduling and timing issues. We have also entered discussions with the International Ocean Institute, and are drafting an MOU, to collaborate in their regional training courses and with their regional centers funded by UNDP, to implement modules on coastal management as part of their 10 week training programs. There have also been an increasing number of individuals from developed countries in Europe who are attending our international training courses, which is an indicator of the interest in the project's experience and approach to coastal management.

Another indicator of the project's training influence on donors and other programs are provided in the following quotes from *"Report on Contributions to Training in Coastal Zone Management in the Asia-Pacific Region."* 1993. Hay, J.E. & Choe L.M. NETLAP Pub. No. 7. Network for Environmental Training at the Tertiary Level in the Asia and Pacific. UNEP/ROAP.

"By, far, only two groups have offered training on a regular basis: IHE in the Netherlands and the Coastal Resources Center of the University of Rhode Island, with sponsorship of USAID..." (McManus, 1993,O [IHE has discontinued their annual course on CZM.]

"The consensus view reported by Chua (1991) was that... personnel trained in coastal area management should be generalists. ... Crawford recommended ... curriculum focus on issues [described in the article]." (Hay, 1993)

CRC has been approached by and provided advice to IDB, UN/DOALOS and the Rockefeller Brothers Fund on the design of training initiatives of their own coastal management projects. CRC has also assisted in the designs of

training/capacity building elements of three USAID projects: EPAT/Washington, NAREPP/Sri Lanka, and SUSTAIN/Philippines.

A secondary target audience has been the global level policy makers. These we have attempted to impact through Global Leadership activities (see Section IV). For example, our support to and participation in framing policy documents for both US global initiatives (e.g. US positions at UNCED, World Coast, Small Islands Conference, Coral Initiative) as well as United Nations initiatives (GSAMP, TRAIN-SEACOAST, etc.)

V.G: CAPACITY AT THE CRC.

A. Is the CRC in a strong position to design and initiate sustainable CRM programs in the developing world through cooperation with USAID or other bilateral or multilateral arrangements? Does CRC have sufficient capacity to do this?

The Coastal Resources Center carries out its mission, *the development of strategies, systems and institutions for the effective management of coastal environments,* on local, national and international levels. This question asks about the overall capacity of CRC and the response is written in this light, not simply addressing the USAID/CRMP, but all the Rhode Island, New England, US and international efforts. The projects in the USA and abroad complement and inform one another.

1. Substantive capacity

CRC has 23 years of experience in the design and implementation of policies, plans and programs for the management of coastal areas. CRC works with governments to draft technically sound plans and then assists with the equally important steps required to formally adopt, fund and effectively implement a plan. Major strategies formulated by the CRC and adopted by government agencies include:

- State of Rhode Island Coastal Zone Management Plan (adopted 1976, amended 1981)
- Rhode Island Coastal Lagoon Special Area Management Plan (adopted 1984)
- Sri Lanka National Coastal Zone Management Plan (adopted 1990) (See Pilot Projects: Sri Lanka)
- Coastal 2000 (Sri Lanka, 1993)
- Ecuador Coastal Resources Management Plan (adopted 1989) (See Pilot Projects: Ecuador)
- Thailand's Coral Reef Management Strategy (adopted 1992) (See Pilot Projects: Thailand)

Many issue-specific strategies have been adopted by local, regional and national governments. A partial listing of these, their locations and adoption dates would include:

- Harbor Management Plans for
  - Charlestown RI (1989)
  - Tiverton RI (1989)
  - Nantucket and Medaket Mass. (1991)
  - and others ...
- Tarutao National Park Management Plan. Thailand (1991)
- Coral reef protection strategy for Phuket and surrounding islands. Thailand. (1989)
- Westerly (RI) Special Area Management Plan (1985)
- Newport (RI) Special Area Management Plan (1987)

- Special Area Management Plans (Ecuador, 1993) for:
  Atacames
  Playas
  Machala
  Bahia

In addition to assistance in the formulation and implementation of plans, CRC's rapidly growing technical assistance program has provided assistance on a variety of issues to governments around the world. The following examples have been selected from a list of over 250 working papers and CRC technical reports:

- Oil spill contingency guide
- Justification for dredging the port of Point Judith, RI. (1975)
- Spatial and temporal pollution gradients in Narragansett Bay (1979)
- Sewage disposal strategy for Rhode Island's Salt Pond Region (1985)
- La administracion publica de los recursos costeros de la provincia de Esmeraldas (Ecuador, 1987)
- Institutional analysis of CRM in Phuket, Thailand (1988)
- A sustainable shrimp mariculture industry for Ecuador. (1989)
- Coastal management in Pak Phanang: an ecological history. Thailand. (1991)
- Shoreline erosion in Sri Lanka's coastal areas (1992)
- Public access guide for Rhode Island shoreline (1993)
- Economic and social analysis of tourism in the Galapagos Islands. Ecuador. (1993)

CRC also has substantial capacity in training. CRC now has two full time staff members devoted to the management of training activities. In addition, there are five professional CRM staff members at CRC capable of designing and implementing quality training events in addition to their abilities to provide technical assistance in CRM planning and administration. This group is supplemented by a half-dozen experienced and capable developing country colleagues from the pilots and elsewhere. However, training is only a small element of the workload of this cadre of CRM professionals. Demand, as indicated by the numerous requests for training CRC receives, currently outstrip our ability to provide it.

CRC has learned how to implement sustainable CRM programs in developing countries as evidenced by the results of the pilot projects. CRC's approach and expertise is much in demand: coastal management projects in East Africa, Central America, Mexico, Chile and the Philippines all have requested advice or technical assistance on aspects ranging from project design (e.g. SUSTAIN in the Philippines, World Bank coastal management project in Mexico) to the presentation of workshops and training courses (Rockefeller Brother's Fund training course development, UN/DAOLOS on the TrainSeaCoast program, and municipal workshops for PCAMRD in the Philippines).

CRC's capacity is recognized by other organizations around the nation and the world. Examples of this recognition can be found in the Global Leadership and Outreach sections.

Another strong point regarding CRC capacity is the support given to the USAID/CRMP from the US programs. CRC is not simply the USAID/CRMP. US team members are in the forefront of developing approaches and techniques. Some of the US program team members also are called upon to work internationally: Virginia Lee provided technical assistance to CORIN in Thailand on several occasions, and Mark Amaral is now deeply involved in the East Africa project.

CRC's capacity is augmented by key collaborators who provide technical assistance to CRC projects. Some come from the University of Rhode Island, others from other universities or organizations:

From the University of Rhode Island
- Arthur Gold, Natural Resources Science
- Timothy Hennessey, Political Science
- Malcolm Spaulding, Ocean Engineering
- Richard Pollnac, Anthropology ——— ?
- Thomas Weaver, Resource Economics
- Niels West, Marine Affairs

From other organizations:
- Max Aguero, International Center for Sustainable Ecosystem Development, Chile
- Luis Arriaga, PMRC, Ecuador
- Alejandro Bodero, PMRC, Ecuador
- Segundo Coello, PMRC, Ecuador
- Steven Crolius, Telesis
- Elmer Ferrer, University of the Philippines
- William Harrigan, formerly with OCRM, NOAA
- Michelle LeMay, Interamerican Development Bank
- Kem Lowry, University of Hawaii
- Liana McManus, University of the Philippines
- Dianeetha Sadacharan, independent consultant, Netherlands
- H.J.M. Wickremeratne, Lanka Hydraulics Institute, Sri Lanka

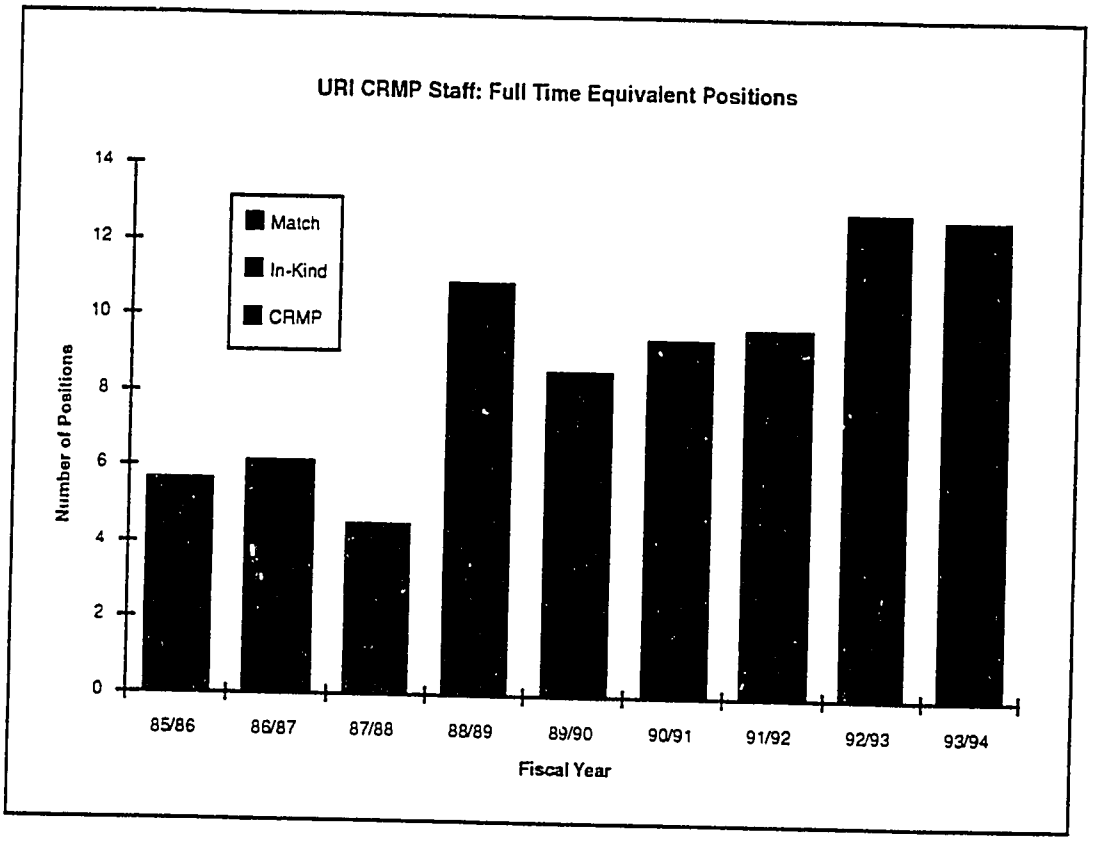
2. Administrative capacity

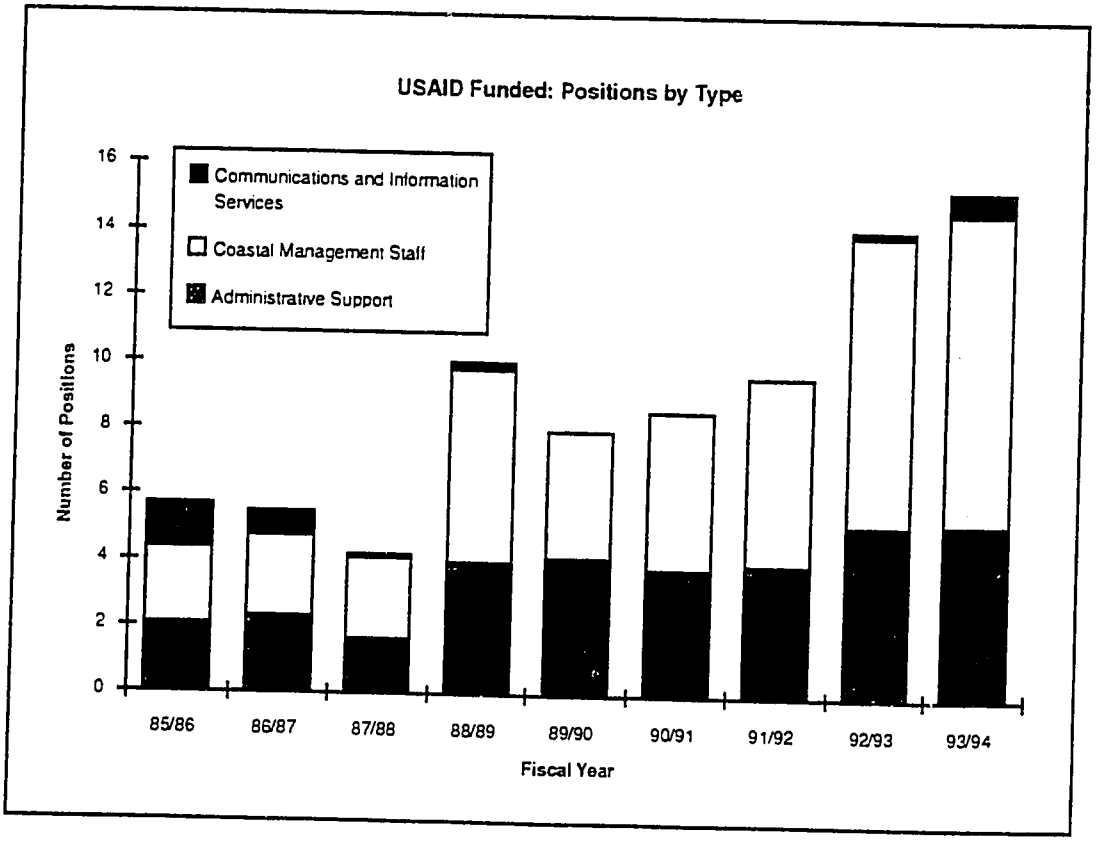
Over the course of the USAID/CRMP project, the capacity of CRC, and URI, to control and administer large, complex USAID (and other donor-funded) programs in several locations has increased enormously. At this time, CRC has 15 professional resource managers, 6 administrative support staff and 3 graduate students in its employ. These figures include the Sri Lanka staff, but not the staff recently transferred to the IDB project in Ecuador. The administrative staff is now headed by an Assistant Director for International Operations, and is well-experienced in all aspects of USAID projects.

Within URI, key staff in all the relevant business and accounting offices are familiar with and work well with the CRMP to accomplish programmatic objectives. Key support units include:

Research Office, (R. Hedlund, A. Mendillo)
Controller's Office (T. Pitassi)
Research and Grant Accounting (ER. Milner, S. Surrette)
GSO Purchasing (K. McConnville)
GSO Business Office (J. Sullivan)
GSO Development Office (C. Cevoli)

In 1992, USAID performed an administrative review of URI and the CRMP, and reported that the performance was excellent(see Christiansen Report in Background Papers).


URI CRMP Staff: Full Time Equivalent Positions
Match
In-Kind
CRMP
Number of Positions
0
2
4
6
8
10
12
14
85/86
86/87
87/88
88/89
89/90
90/91
91/92
92/93
93/94
Fiscal Year


USAID Funded: Positions by Type
Communications and Information Services
Coastal Management Staff
Administrative Support
Number of Positions
0
2
4
6
8
10
12
14
16
85/86
86/87
87/88
88/89
89/90
90/91
91/92
92/93
93/94
Fiscal Year

B. What were the relative contributions of the University and USAID to CRC's development?

The development of CRC has resulted from both intellectual and financial support from USAID *and* the University of Rhode Island. Both have been integral to the growth of expertise and capability at CRC.

The intellectual development of CRC and its ideas about integrated coastal management has been most critical to CRC's evolution to world leadership. USAID has played a continuing major role through the substantive and technical contributions of both the Washington and Mission-based staffs. During the initial years of the project, S&T/FENR convened a Technical Advisory Committee of Regional Environmental Officers from the Asia and LAC Bureaus to provide guidance to the project. This committee provided substantive advice as to how coastal management should proceed in the pilot projects and respective regions. In Ecuador and Thailand, where the Mission played an active role in launching the pilot, long-term FSNs and each Mission -- Fausto Maldonado and Kasem Srinian in Thailand -- were perhaps the most important key informants and advisors about project initiation and progress.

The intellectual contribution to the CRC from many faculty members and administrators at URI also have been substantial. A number of faculty and staff participated in planning for the future of CRC through issue teams on Institutional Development, Training, and Capacity Building. Faculty members have worked alongside CRC staff in the development of management plans and policies. Notable examples are:

- Jon Boothroyd's contributions to the understanding of shoreline processes in Ecuador,
- Tim Hennesey's continuing exploration of adaptive management in the context of coastal ecosystem management, and
- Niels West's interests in training and education for the next generation of coastal managers.

A Faculty Council advises the Director on matters relating to the interaction between URI and CRC and to some extent on programs and policies.

Further details on the involvement of faculty can be found in the accompanying papers on the University Strengthening and Training Programs.

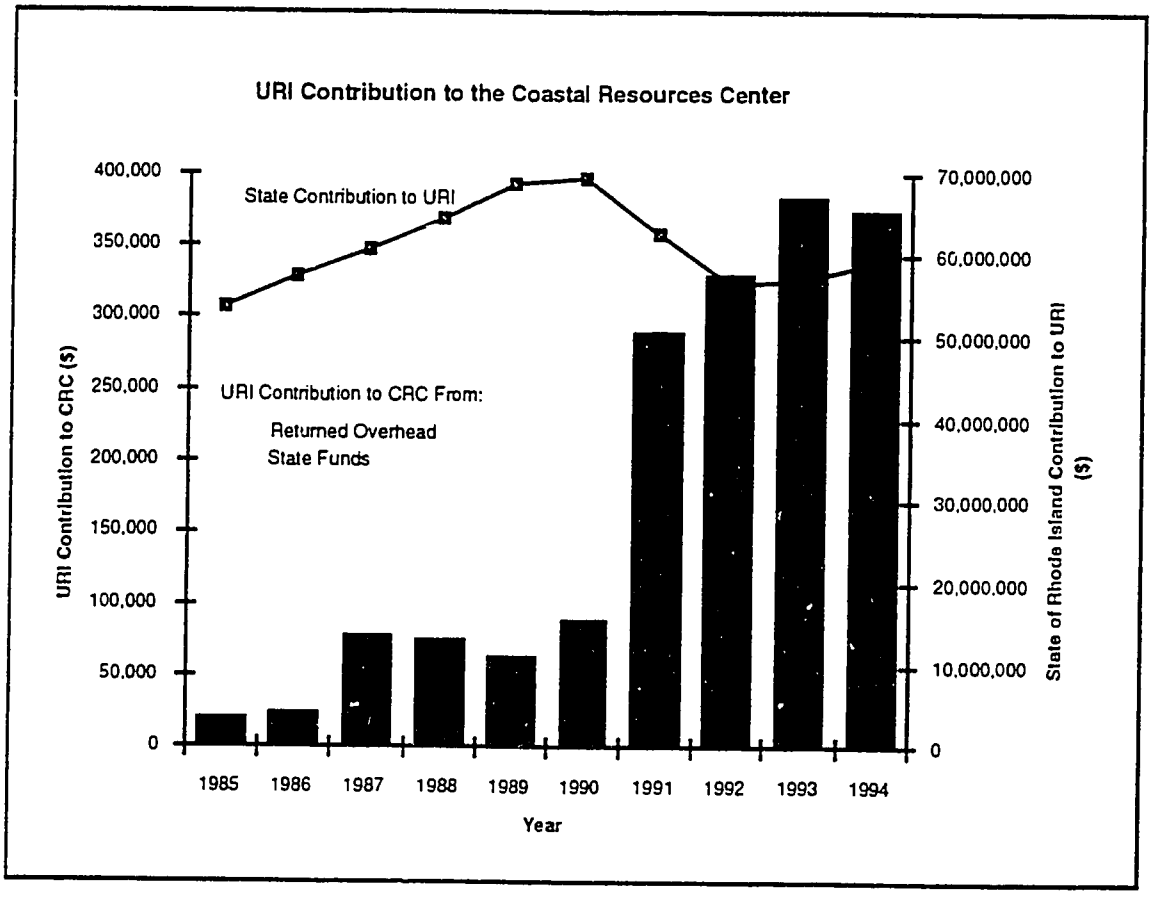
From administrative and financial points of view there also has been a true partnership in the development of CRC. During the first five years of the project, direct financial support from URI was quite limited, and all CRMP personnel were supported by USAID funds. However, URI waived substantial amounts of its normal overhead rate to support the project. When USAID extended the CRMP in 1991, one requirement of extension was an increased commitment from URI to support international coastal management. Despite a crushing financial situation at the University, URI committed itself to increased support, and has increased that support each year. Now, in year 9 of the project, URI fully funds the Project Director and Associate Director, and portions of the Ecuador and Training Program Manager's positions. URI continues to return substantial portions of

overhead to CRC, an indication of its continuing support of coastal management as part of the core mission of the university. Dean Margaret Leinen, and before her, Dean Robert Duce of the Graduate School of Oceanography have been staunch supporters of the CRC in regard to both the policies and finances of the university.

There are many intangibles gained from the university as well. CRC staff have access to a reservoir of expertise in the faculty, and of competent and eager help in the students. The Pell Library is one of the best marine libraries in the world. The affiliation with the University of Rhode Island, known around the world for its marine programs, is a significant bonus in developing relationships with universities, research institutes, and governmental agencies(refer to attached figures).

C. What is the CRC's capacity to develop further through new activities sponsored by USAID?

This calls for a judgement on the part of the evaluation team. CRC's capacity is addressed in numerous places throughout the briefing book, and in 7.a and b above.


URI Contribution to the Coastal Resources Center
State Contribution to URI
URI Contribution to CRC From:
Returned Overhead
State Funds
URI Contribution to CRC ($)
State of Rhode Island Contribution to URI ($)
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
70,000,000
60,000,000
50,000,000
40,000,000
30,000,000
20,000,000
10,000,000
0
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
Year

URI Financial Contributions to the CRMP

Estimated Cost Sharing Summary
May 1985 through June 1994

Mandatory Cost Sharing		
Salaries and Fringe Benefits	227,823	
Waived Overhead	398,777	
		626,600
Estimated Voluntary Cost Sharing		
Salaries and Fringe Benefits	367,027	
Waived Overhead	610,287	
		977,315
Total Estimated Cost Sharing		**1,603,915**

V.H: MANAGEMENT

A.1 Has the CRC effectively managed its pilot and training programs?

The priority concerns for the management of the CRMP was to ensure that the CRMP was truly a cooperative effort—cooperative in management style between USAID and URI and cooperative with the pilot countries—with an overriding concern to empower pilot country institutions and personnel.

The management approach was an "adaptive" one, an incremental style where consultation and consensus building was the preferred model rather than log frames and command and control from the center. These principles were reflected in:

Pilot Projects

Life of project objectives were stated in cooperatively prepared Joint Project Agreements that were signed by USAID (both Mission and R&D), the host country and URI. These agreements, prepared over a six-month to one-year period, provided overall guidance for each pilot. In all agreements, the URI and Host Country Counterpart Organization Director are named as project Co-Directors who share equally in all decision making. This arrangement, while unusual, was critical to establishing the trust that is so crucial for both initiating and sustaining pilot projects. An adaptive, learning approach to project management was achieved through an annual work plan process in which all parties reviewed what was and was not working and why and then together strategically set the course for the next year.

In following the "empowerment theme," in all pilots at the request of the host government, a Project Management Unit (PMU) was set up to coordinate project activities and administrator project funds (rather than funnel funds through the government bureaucracy). The selection of the In-country Manager was largely left to the host country with input from the Mission. In the case of Sri Lanka and Ecuador, this arrangement worked well; in the case of Thailand, significant resentment between the Project Management Unit and the Office of the National Environment Board (largely because of salary differentials and differences in style) developed. U.S. advisors proved most effective in the pilots when they were non-residents who frequently visited the country to work colleagually with host country staff. This model was especially effective for Thailand's coral work, Ecuador's ZEM process, and the preparation of the Sri Lanka CZM Plan.

Training

Training, as a cross-cutting program, was involved with all other facets of the project which provided many challenges for effective and efficient administration. The training programs provided services to each of the pilot programs and the style and manner of this assistance varied somewhat with the resources and needs of each. Most, but not all, in-country activities were coordinated in-country, with almost all of the international or U.S.-based events being coordinated by the URI-based training unit. The training unit also assisted the

pilots by helping to prepare country training strategies which contained multiple year objectives and recommended events which were reviewed and incorporated in annual work plans.

Management of the international courses was provided by the URI-based training unit. This included marketing, and coordination of all administrative arrangements and logistics as well as coordination of course design, curriculum development, implementation and evaluation. It involved the implementation of Training of Trainers programs and planning workshops. It has also involved managing the financing arrangements including the establishment of course fees, which have brought in approximately $400,000 for implementation of these events. In the case of regional courses, it has involved the development and implementation of cooperative agreements with partner institutions. Management of the regional courses required the coordination of CRC-based trainers and partner institution collaborators.

A.2 Are or were better alternatives available for capacity building?

This question requires judgements best left to the evaluation team.

B. USAID management staff and environmental policies changes repeatedly over the life of the project. How did this instability affect the project? How did the CRC cope with these transitions?

During the Project's initial two years, there was considerable turnover in the responsible project officer (see timeline in section I. CRMP Overview). CRMP's Director and Associate Director invested considerable time in orienting new USAID staff and adapting project activities to their new input. Beginning in 1989, there was stability in AID/Washington personnel.

In the mid 80s, R&D emphasized research and development and CRMP's pilots were valued as a vehicle for developing new techniques for addressing new issues. Beginning in the early 90s, the R&D Bureau's priority shifted to providing service(s) to missions. The CRMP has responded to this shift by trying to find a balance between maintaining the pilots as cost effective laboratories for developing new CRM techniques, and substantially increasing its "outreach activities" that directly provide "services" to Missions. This additional emphasis was accommodated by adding a full-time outreach coordinator in 1993 and a shift in priorities for all CRMP staff. As USAID moved to develop its environmental strategy, the CRMP has also attempted to assist with new policy initiatives such as the Coral Initiative. With the adoption of USAID's new strategy — with its emphasis on participation, democratization, linkages with health — the CRMP should be viewed as a more "mainstream" project (see also section 1E, VA and 1F).

Changing mission policy and personnel, especially in Ecuador and Thailand had substantial impacts on the funding for and direction of those pilots. While a number of mission changes were positive (e.g., USAID/Bangkok's requirement that the CRMP work with Prince of Songkla University to establish CORIN), the majority were not. Examples include:

Ecuador

- Financial Support. Because of changed personnel and priorities (both at the Mission and Washington levels), the CRMP received only about 25 percent of originally anticipated Mission funding.

- Programmatic changes in 1987 that favored a change in focus from CRM to assistance to the shrimp mariculture industry were strongly urged by the Mission. These changes resulted in:
  - a significant reduction in project progress
  - substantial disagreement between URI, USAID/Washington, and the Mission

Thailand

- Priority shifts resulted in anticipated follow-on CRM programs (CORIN and a ManRes CRM component) being canceled.

C. Were communications between the Missions, the CRC, and the central (Global) Bureau clear and effective?

The CRMP has been marked by a high level of communication between the USAID/Washington Project Officer and the CRM Project Director and Associate Director. It is routine for there to be three phone conversations a week between CRC and USAID; and when important new initiatives are being discussed, up to five a day! This level of communication has been a necessary part of the cooperative relationship both USAID and URI have valued. With the exception of formal work plan development/review sessions (typically held annually or biannually) with the CRMP Board, formal means of communication (i.e., quarterly reports) have been less successful in promoting feedback mechanisms. In addition, lack of funding for the USAID/Washington Program Officer has resulted in his being unable to visit field sites. This has made it difficult to fully communicate project results.

Communication with the Missions has been somewhat less smooth. In cases where there was no resident American advisor, communication between the Mission and the project was typically between the In-country Manager and the Mission FSN assigned to the project. This communication was not always effective in reaching Mission decision makers. Higher level Mission contact was limited to when the Project Director or Associate Project Director were in the country. Current Mission relations with Sri Lanka and outreach Missions (e.g., REDSO/ESA, Philippines), however, are excellent.

D. Was the funding predictable and how did deviations affect the project?

Funding from R&D for the first eight years of the project was generally in line with the project's anticipated funding level. However, this very positive reality must be tempered by the fact that in almost every year, USAID (and hence URI) did not know whether it would receive the full funding it anticipated and in many cases was told it would not. Hence work plans were developed by URI and approved by USAID without having the cash obligated for the year. It was typically uncertain as to when and how much would be made available for up to six months into a fiscal year. This led to conservative spending patterns which sometimes led to project delays. At the end of the project, in Years 9 and 10, the CRMP has suffered from budget cuts. The FY '94 work plan for CRMP activities was amended mid-year to reflect a 30% budget cut. Current uncertainty about funding is a major issue. It is essential that as the demand for CRMP services increase, there is no loss of capacity at CRC due to budget cuts.

Mission funding from Thailand and Sri Lanka (through the NAREPP) once started has been predictable. In the case of Ecuador, however, Mission funding has been totally unpredictable. This has created much uncertainty about budget, and sometimes "paralyzed" project personnel. Ecuador buy-ins were as follows:

Work Plan Year Funded	Date Funds Received	Months Into Fiscal Year
FY '86	September '86	11
FY '87	July '87	7
FY '88	June '88	6
FY '92	August '92	10
FY '93	August '93	10

E. Has CRM's support to multiagency and multinational programs (e.g., the U.S. Coral Reef Initiative, the World Coast Conference, the UNEP OCA/PAC training workshop) been effective? Did this work divert resources and impact the CRC's ability to carry out its core program? Has this participation altered the views of the Missions?

An example of the projects effectiveness of influencing multilateral programs is its cooperation with UNEP. This started when UNEP/OCAPAC provided funding for 12 participants to attend our regional courses in 1993. This was followed by a request for CRM training for OCAPAC's own staff, which was jointly implemented by NOAA and CRC. The OCAPAC training led to development of a joint project effort with OCAPAC, FAO and the USAID Regional Office for an East Africa CRM initiative in Kenya and Zanzibar. The purpose of this collaboration is to train UNEP and FAO staff (learning-by-doing) by working with CRC on the East Africa

Project. UNEP has also committed funds for some initial implementation activities at the project sites.

CRC also participated in a UN/DOALOS consultative meeting in Sardinia in 1993 concerning capacity building in ocean and coastal management. CRC's views are reflected in the meetings report (Report on the Consultative Meeting on Training in Integrated Management of Coastal and Marine Areas for Sustainable Development, Sassari, Sardinia, Italy, 21-23 June 1993, UNDOALOS.) and the action plan (Action Plan for Human Resources Development and Capacity Building for the Planning and Management of Coastal and Marine Areas, 1993-1997, March 1994, UNDP, DOALOS) developed from it. UN/DOALOS and UNDP are now funding an initiative called TRAIN-SEACOAST which is to develop a network of institutions involved in ocean and coastal management. CRC has been involved in expert meetings on this project and has influenced it's direction and approach.

CRMP's support to outreach efforts such as the U.S. State Department's Coral Initiative, the training program for UNEP OCA/PAC's Regional Seas staff, participation in the World Coast and Small Islands Workshop, is viewed by CRC as part of its "outreach efforts," directly tied to outcomes from the pilots. Such "leading edge" projects also serve as the CRMP's eyes and ears for identifying the demand for and new applications of the CRMP experience. Hence, they should not be viewed as "diversions."

The strength of the CRMP has been the integration and interconnectedness of its pilot projects and outreach efforts (the first provides substance and credibility to the latter, and outreach provides a time for lesson drawing, expansion and application of the former). The issue is really one of having sufficient staff at CRC to carry out these new efforts as they occur. For substantive efforts, AID must cover core costs and a dedicated person must be funded to assist with the effort. The question about outreach and pilots is not "either/or," but finding a workable balance between assisting with new activities as they arise and providing continued, high quality support to ongoing activities.

V.I.: FOLLOW ON PROJECTS

9a. What are the present needs, and what needs will develop in the next five to ten years?

THE URGENT NEED FOR IMPROVED MANAGEMENT OF COASTAL ECOSYSTEMS

Coastal ecosystems already contain 50 to 75 percent of the world's population and are expected by 2050 to absorb the increases of a global population twice as large as it is today, largely in sprawling cities and primarily in the tropics. (Merrick, 1989).

In coastal environments the classical evidence of environmental overuse and degradation include:

- Declining water quality in rivers, estuaries, groundwater, and even the nearshore ocean.
- Destruction of habitats important to the production of food, fiber and fuel, to maintaining ecosystem integrity and with important roles in the physical stability of the coastline
- Losses in biodiversity; coral reefs rival tropical rainforests in biodiversity per unit area and are being rapidly degraded.
- Declines in nearshore fishery resources.
- Mounting conflicts.
- Continuing inability of governmental organizations to cope by either mitigating adverse effects or mediating among conflicting groups.

The importance and need for effective management of people and their impacts in coastal environments was highlighted in the 1992 Rio Conference on the Environment.

In the developing world "environmental" laws, regulations and plans are proliferating. The primary challenge, however, lies in the implementation of the changes in attitudes, values and behavior that such plans and programs require.

- Many recently prepared plans are of excellent technical quality but they usually address only aspects of the closely interrelated issues of man's dependence upon his environment.

- Only a small proportion of these plans can be implemented, especially where the problems are most severe, because the people affected do not, or cannot, support the actions that are proposed.

- As a result, the symptoms of unsustainable levels of utilization of the coastal environments are rapidly becoming more widespread.

Future Development Options for Coastal Nations may be Precluded by Ecosystem Degradation

- Losses in the quality of ecosystems threatens the sustainability of such important new industries as mariculture and coastal tourism that together are viewed by many countries as major prospects for economic growth.

- Similarly, losses in food production capacity and traditional livelihoods reduce the prospects for the growing numbers of coastal peoples already living in poverty. In an increasing number of nations the use conflicts and absence of effective governance that accompany environmental degradation are at the root of social unrest and political instability.

SPECIFIC NEEDS

Country Needs

- As of March 1993, there are 177 coastal sovereign states out of 218 sovereign states worldwide. 81.2% 32%
- Chapter 17, Agenda 21, calls for all coastal nations to formulate and implement coastal programs by the year 2000.
- As of 1993, at least 141 integrated coastal zone management efforts have been identified in 56,(39 percent) of these coastal sovereign or semi-sovereign states.(see Figure) As these efforts progress through full CRM program development and implementation, greater demand for assistance—especially from experienced programs—can be anticipated.

International Needs

- International Needs:

The following international events are all likely to increase demand for CRMP expertise and U.S. leadership in coastal management:

- International Coral Initiative
- ratification of U.N. Convention on the Law of the Sea (1994)
- framework Convention on Climate Change
- Biodiversity Convention
- UNEP Global Conference on Land-based Sources of Marine Pollution (1994)
- Commission on Sustainable Development's Review of Agenda 21 Chapters on Oceans and Biodiversity
- establishment of "Blue" programs within multilateral development bank environment programs.

Integrated Coastal Zone Management Programs
Existing national programs
Existing state/provincial or regional programs
Existing national and state/provincial or regional programs
Regional, state/provincial or regional pilot programs or feasibility studies
Source: Sorensen, 1993 Ocean & Coastal Management

USAID NEEDS

- When CRM I was initiated in 1985, it was the first significant coastal management project in USAID's portfolio. The situation in 1994 is quite different. Numerous Missions in the LAC and Asia Regions now have bilateral natural resources projects, with coastal components,
  -e.g. ENCORE, in the Caribbean, NAREPP in Sri Lanka, PROMESA in El Salvador, and SUSTAIN in the Philippines, and
  -more missions are considering adding "blue" elements to their portfolios (e.g. Tunisia, Madagascar, Mozambique).

- Newly developing programs should learn from previous and ongoing programs within the USAID portfolio as they are designed. Conversely, USAID/G needs to learn from the Mission projects so that the overall USAID portfolio is strengthened.

- USAID's Biodiversity programs have only marginally worked in marine and coastal habitats-which are among the most biodiverse and threatened habitats on earth. The need for expertise to address marine biodiversity issues is likely to increase.

Increasing Demand for CRMP Services

- While accurate records have not been kept, there have been steady increases in interest in the CRMP as evidenced by:
  - requests for advice/services to donors other than USAID
  - general letters of inquiry to CRMP
  - expanded numbers of requests for CRMP publications and newsletters
  - increased numbers of requests for CRMP participation in international workshops and conferences
  - increasing numbers of applicants to CRMP short courses
  - increasing numbers of requests for "follow up" technical assistance.
  - increasing requests from other federal agencies (e.g. NOAA, EPA, Dept. of State) for assistance in international CRM initiatives

A Follow On Project

CRC, through the CRMP, has given considerable thought to how a CRM II project could address these needs. These ideas are included in the draft "Concept Paper for Coastal Resources Management Project II" (October, 1993) and an updated, summarized version of the concept paper's last section found in the Appendix of this document.

b. Alternatives to a centrally funded project?

There are many merits to a Centrally funded project that would be lost if a follow-on project was designed which carved up the current components within other Washington-based projects or relied solely on missions and regional bureaus. The CRMP I was a thoughtful and forward looking project that was well designed and justified. Much of the text of the 1985 project paper holds true for 1994 as it did almost a decade ago. The greatest benefit a centrally funded project can

provide is the synergy, integration and cutting edge approaches developed under the current project.

A unique difference to the CRMP project design over most other centrally funded projects was the inclusion of multiple long-term pilot (field) programs. While missions supported these programs at varying levels, the base of core support and the duration of a sustained presence in three countries allowed sufficient time for results to emerge from these field experiments. These learnings are now being widely disseminated. Without a base of field program experience, the outreach and training components would have been much weaker, probably taking a more academic and research perspective rather than the practical hands-on, experiential approach which emerged. Cross learning between and among field programs is not likely to occur or even be funded through a collection of mission projects alone. The success of the CRMPs outreach and training, and the influence of the CRMP on new regional and mission initiatives in East Africa and the Philippines, is due to the credibility achieved by having a core group of practitioners with long term developing country experience and partnerships with colleagues in multiple nations.

Even a centrally funded project requires a coherence and integration which allows experimentation, analysis of lessons learned, and synergy to occur. Carving up the current project into small pieces - training here, research there, technical assistance somewhere else - divided up among a number of different agencies and contracts, would result in a loss in the creativity and the integration achieved by the CRMP. Another alternative, dividing a second coastal initiative under different theme areas, coral reef initiative as part of biodiversity, mangrove management in forestry, water quality in water resources or pollution control, sanitation in health, goes against some of the most important lessons of the project and sustainable development approaches adopted at the Earth Summit and by many other groups. The problems and issues in the coasts of the world need to be addressed in a holistic manner, through an integrated approach which transcends sectors and disciplines. The beauty of the integrated design of the CRMP is that it cuts across all strategic priority issues of USAID to foster sustainable development including democratization, health and population, environment, and economic growth (see Section I of the briefing book). Sustainable development of coastal issues requires examination and coordinated action on all of these issues for any given place.

A CRMP II needs the strategic behavior and simplicity of design which was developed for the CRMP. To provide increasing level of services to meet the growing demand for the project, inclusion of additional agencies, institutions and individuals into a coherent and integrated design will be a significant challenge for a CRMP II design team.

c A New CRM Project?

Is there a need in the global bureau to support the new integrated coastal resource management activities now starting in several countries? Should USAID continue to provide leadership in this field through projects such as the U.S. Coral Reef Initiative?

9.c.1 Would a new CRM project fit USAID's new environmental strategies and policies?

Much of CRC's answer to this question will be found in Section 1G: Sustainable Development USAID and the CRMP approach; here only the outlines are sketched.

USAID has identified four broad areas of concentration for program support: *Population and Health*, *Economic Growth*, *Environment*, and *Democracy*. The nature of the work of the CRMP focuses on the last two and has wider implications that touch the first two. In the area of the *Environment*, USAID declared that it will pursue two strategic goals:

- Reducing long-term threats to the global environment, particularly the loss of biodiversity and global climate change
- Promoting sustainable economic growth locally, nationally and regionally by addressing environmental, economic and development practices that are unsustainable.

CRC's international programs clearly address issues of biodiversity in providing integrated plans and policies for some of the most diverse ecosystems in the world. In particular, the coral reef protection strategies developed in Thailand, Sri Lanka and the Philippines, and the CRMP's support to the interagency Coral Reef Initiative address some of the most diverse ecosystems in the world. Other ecosystems in which we work, mangroves, estuaries, and coastal lagoons are not known for their diversity, but are enormously productive and important to both marine and human economies.

The integrated environmental management approach taken by the CRC focuses on the interrelationships among competing and often unsustainable practices. Examples of this abound: tourism development usually depends upon high quality environment, yet wastewater from hotels, siltation from roads and unintended visitor damage to the environment may conspire to degrade the environment so tourism is not viable. Similarly, effluent from aquaculture facilities may affect the local environment, degrading fisheries, tourism, and other aquaculture industries. Single sector approaches in the coastal zone are not effective in reducing conflicts and ensuring that the ecosystem functions in a reasonable way.

CRC addresses the cultivation of *Democracy* in very fundamental ways. The CRMP has worked to identify the means for assuring meaningful participation in every phase of the management process. In Sri Lanka, Thailand and Ecuador, public meetings have been used to ensure the participation of local citizens in the definition of policies and formulation of plans, not simply the identification of issues. The use of national "focusing events" such as the presidential election in Ecuador has proven an excellent method for bringing issues to the attention of the populace, and for developing constituencies at all levels, from local to

national, for coastal management. This participatory approach involves and empowers people in a way that builds democratic institutions from the ground up.

USAID's operational approach outlined in the 1994 document Strategies for Sustainable Development is very similar to the integrated methods and objectives of the CRMP USAID's operational approach is composed of four major elements: sustainable development, participation, partnerships, and integrated approaches and methods. These techniques have been utilized and proven over the life of the CRMP, and would be employed in any follow-on project.

9.c.2 What would the minimum staffing and funding requirements be?
This part of question 9.c is difficult to answer without a plan for a new project. As indicated in 9.a, the demand for the services that CRC can provide is growing rapidly. If the mandate of Agenda 21, for all 177 coastal nations to formulate and implement coastal programs by the year 2000, is to even be approached, an enormous amount of work needs to be done. Clearly, CRC alone will not be able to meet the demand. The minimum staffing and funding depends on what is planned for the project.

9.c.3 Would it be useful to combine a new CRM project with a broader watershed/water resources management project?

Without a very strong rationale for combination with a broader project, CRC's inclination is to answer this question in the negative. The USAID/CRMP was the first project of its kind and is essentially pioneering the field of international coastal management. A great deal has been learned. However, the consolidation and institutionalization of the learnings, particularly by applying them in new situations, has not been done. In addition, an enormous effort in building indigenous capacity through training, networks, and universities is required. And the question of how to effectively monitor and evaluate integrated coastal management programs has hardly been touched. Broadening the scope to include watershed and water resources management issues would lose the focus and intensity of the current program and delay, perhaps indefinitely, the completion, by CRC, of some of the necessary next steps in the development of a mature field of Integrated Coastal Management.

9.d Does current capacity of the CRC meet the projected field demands? If not how can other partners be included?

While CRC has significant capacity (see Section VG), it alone cannot meet the projected demands. In the draft concept paper for CRMII the following mechanisms are suggested for augmenting CRC capacity.

(1) A Resource Group that can provide for the sustained involvement of the most experienced practitioners in ongoing coastal management programs and specialized skills required by CRM II that are available within the United States.

(2) Expansion of the role of highly qualified educators and researchers within the URI community with long experience in the topics that are central to the management of coastal ecosystems in CRM II. This team will be able to work with fellow faculty at universities worldwide that are dedicated to building program integrated programs for teaching, research, and clinical practice in CRM. The URI faculty team will add another dimension to the core staff at CRC that will broaden and enrich the pool of expertise available for short term technical assistance and training as well as longer term activities.

(3) Strengthened Coastal Management Networks in the Latin America and Tropical Asia regions. These were initiated during CRM I and will be strengthened so that they can effectively bring to bear the rapidly evolving experience in implementing CRM concepts in recently developed and developing nations.

(4) Expanded partnerships with federal agencies such as NOAA and EPA to provide technical assistance, specialized training and support to international initiatives in coastal management.

The coherence of an expanded set of global activities need be maintained by such measures as the preparation and approval by CRC/URI of selection of program staff and a quality control function for all major documents produced through the program. An annual symposium would be an important means for promoting the intellectual coherence of the program and promoting the sharing of experience and ideas not only among those participating in CRM II but a much larger community of those concerned with the management of global environmental change.

V.J: CROSS-CUTTING ISSUES

(1) Cost--sharing: Did organizations other than USAID, including contractors, grantees, and participants, share costs, and was this participation beneficial?

Refer to: I.D, Financial Information
III.E, Administration and Financing of Courses
V.G, Capacity at the CRC

(2) Buy-ins: Have buy-ins enhanced the work of the project? Have they altered its focus or objectives?

Refer to: V.B, Missions and Bureaus

(3) Sustainability: Does the project promote activities that will be supported beyond the duration of USAID funding?

Refer to: II.B, C & D - Coastal Management Programs in Ecuador, Sri Lanka, and Thailand
V.G - The Coastal Resources Center at the University of Rhode Island is capable of providing substantive assistance in coastal management to developing countries and donors who are working to assist these nations.
III.E - An excellent series of revenue-based short-term training programs in coastal management.
III.E and II.C&D - CORIN at PSU already has shown itself to be a sustainable institution and CRC/ESPOL has attracted funding for coastal management and gained a reputation for presenting good training courses
III.D - A global database of ongoing national coastal management programs and a global communication network and regional networks in Latin America and tropical Asia.

(4) Women in Development: Were gender issues considered in the project proposal? During implementation? Can the results be the project be disaggregated by gender?

Gender issues were not explicitly considered in the original project design or implementation; nor can project results be disaggregated by gender. However, special efforts were made, when necessary, so that women could participate in the coastal management process. For example, in Ecuador, meetings of the ZEM Committees in Bahia where scheduled so that women from outlying villages could attend.