

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET	1. TRANSACTION CODE <input checked="" type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number _____ / _____	DOCUMENT CODE 3
2. COUNTRY/ENTITY Worldwide	3. PROJECT NUMBER 936-5518 <input type="checkbox"/>		
4. BUREAU/OFFICE S&T/FNR <input type="checkbox"/> 10 <input type="checkbox"/>	5. PROJECT TITLE (maximum 40 characters) <input type="checkbox"/> Coastal Resources Management <input type="checkbox"/>		

6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 9 3 0 9 0	7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4) A. Initial FY <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 0 <input type="checkbox"/> 1 B. Quarter <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 C. Final FY <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 0
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8. COSTS (\$000 OR EQUIVALENT \$1 =)						
A. FUNDING SOURCE	FIRST FY <u>84</u>			LIFE OF PROJECT		
	B. FY	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(400)	()	(400)	(5,000)	()	(5,000)
(Loan)	()	()	()	()	()	()
Other U.S.						
1.						
2.						
Host Country						
Other Donor(s)						
TOTALS	400		400	5,000		5,000

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	Grant	2. Loan
(1) FN	101 I	851		100		400		5,000	
(2)									
(3)									
(4)									
TOTALS				100		400		5,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) 099 079 851 876	11. SECONDARY PURPOSE CODE
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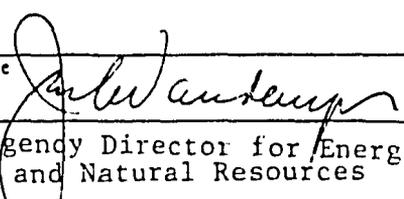
12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each) A. Code: ENV B. Amount: 5,000	
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13. PROJECT PURPOSE (maximum 480 characters)

To demonstrate in selected LDCs the economic benefits of coastal zone resources, planning and management by increasing host country capacity for addressing coastal issues.

14. SCHEDULED EVALUATIONS Interim MM YY MM YY Final MM YY 9 8 6 9 9 0	15. SOURCE/ORIGIN OF GOODS AND SERVICES <input type="checkbox"/> 000 <input type="checkbox"/> 941 <input type="checkbox"/> Local <input checked="" type="checkbox"/> Other (Specify) <u>935</u>
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16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a 56 page PP Amendment.)

17. APPROVED BY	Signature:  Title: Agency Director for Energy and Natural Resources	Date Signed: MM DD YY 6 11 84	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY
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COASTAL RESOURCES MANAGEMENT PROJECT PAPER

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NARRATIVE SUMMARY

Program or Sector Goal: The broader objective to which this project contributes: To assist LDCs to manage their coastal resources on a sustainable basis more effectively through integrated approaches to regional planning and development.

Project Purpose: To develop an integrated approach for coastal resource management in selected LDCs that will:

- explore institutional and technical solutions to resource use conflicts;
- support research on topics to resolve resource management issues;
- create an institutional arrangement that reviews all coastal development proposals;
- improve the information base on coastal resources
- improve professional staff capabilities to plan coastal development;

OBJECTIVELY VERIFIABLE INDICATORS

Measures of Goal Achievement:
-methods developed by project-assisted activities result in conservation and sustainable development

Conditions that will indicate purpose has been achieved: End of project status:
-replicable methods for promoting effective CRM in LDCs will have been developed;
-institutional and technical solutions to CRM conflicts are recognized and utilized;
-research results can be applied to management policies and development decisions;
-an LDC inter-agency working group regularly reviews development coastal zone proposals;
-Adequate technical information about coastal resources for coastal development decisions;
-LDC staff responsible for coastal resource management has improved skills.

MEANS OF VERIFICATION

- Final evaluation
- Newspapers
- Correspondence

- Final project evaluation

IMPORTANT ASSUMPTIONS

- Current LDC coastal issues and trends accurately indicate LDC needs to improve their resource management capacity
- Technology transfer and research develop improved methods of CRM
- National policy and programs apply improved CRM methods
- USAID will continue to provide assistance in the area of natural resource management after termination of pilot project

Assumptions for achieving purpose:

- technical assistance can strengthen institutional capacity to foresee coastal resource development conflicts and to plan for mitigation of negative impacts;
- an integrated system of CRM involving inter-agency cooperation can improve an LDCs development planning;

Outputs:

- 3 pilot projects providing long-term advisors
- short-term technical assistance
- research results
- training
- information dissemination

Magnitude of Outputs

- 2 long-term advisors
- 45 short-term TA missions
- 8 research grants and papers describing results
- 4 regional workshops
- 6 ho professionals given short-term training in U.S.
- 7 short CRM courses developed and presented in LDCs
- 4 publications

Means of Verification

- Annual management evaluations and quarterly progress reports;
- Research reports
- Cables from participating Missions

Assumptions for Achieving Outputs:

- expertise is available for long-term advisor & short term technical assistance;
- U.S. experts are willing to carry out research in LDCs and host countries will make contributions to research efforts;
- Participants in training receive U.S. and/or LDC funds;
- Communications Review Board approval where appropriate.

Project Inputs:

AID: Project Management & funding
Contractor: Technical expertise, travel

Implementation Target

FY-83 \$ 100	FY 87 \$1100
FY 84 \$ 400	FY 88 \$ 900
FY 85 \$ 700	FY 89 \$ 600
FY 86 \$1200	TOTAL \$5.0 Million

- Monthly progress reports of Contractor Project Director
- AID ABS and CP documents

Assumptions for providing inputs:

AID funds and management personnel are available through FY 1990.

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PART I. PROJECT SUMMARY

A. Problem:

Coastal resources are of major economic significance in developing countries. The majority of LDCs are coastal states or islands, and their coastal ecosystems contain rich natural resources capable of supporting a variety of activities and serving diverse human needs for food, energy, shelter, and other commercial development. Development opportunities occur in many sectors: fisheries; energy development, including mangrove fuel, off-shore oil and gas, wind-generated and offshore thermal energy conversion; coastal agricultural development; mangrove forest management; tourism; port and urban development; industrial facility siting, and mining sector opportunities.

There is increasing pressure in LDCs for rapid development of coastal resources by both government agencies and private economic interests, which regard coastal areas as underutilized. Typically coastal development has evolved in response to the pressures of individual sectoral interests, that plan development independently and do not adequately consider the effects of one form of exploitation upon another development activity. Consequently many coastal resources are susceptible to negative impacts, and the potential is great for severely reducing the long-term productivity of the system. The unmanaged growth of competing demands for coastal space produces congestion, conflicts among uses, and ultimately loss of the economic assets of the coastal resource base itself. Conversely, planned and coordinated development of coastal resources can provide the basis for accelerated and sustainable economic growth that will have major employment generation, production and equity benefits.

B. Proposed Solution:

AID is undertaking a project in the field of Coastal Resources Management (CRM), because Missions and the Regional Bureaus have repeatedly expressed the need for CRM guidance and expertise in meeting the needs of host countries. The U.S. has a leadership role internationally in the field of coastal resources management as a result of the practical experience gained following passage in 1972 of the Coastal Zone Management Act. That Act guided 35 coastal (including Great Lakes) states and territories to develop and implement CRM programs. These programs regulate a number of state-specific resources and areas, specifying how the development and conservation of each shall be accomplished, and establishing administrative mechanisms for resolving conflicts among competing sectors and interests. As a result, the U.S. possesses expertise in both technological and institutional solutions to CRM transferable to LDCs. Significant elements of U.S. technological expertise can be transferred to LDCs in the areas of port development, coastal industrial siting, fisheries resource management, and reduction of coastal land erosion and storm damage. Institutional solutions garnered from U.S. experience include: effective institutional arrangements for regulating coastal development, an effective series of steps and time-table to develop a coastal management plan, and a pragmatic combination of research, administrative, and planning activities to achieve a workable CRM program.

The Coastal Resources Management (CRM) project will apply and adapt U.S. CRM experience in selected LDCs. It will support 3 pilot programs that will assist LDCs establish an effective administrative mechanism and a management plan for the development of their coastal resources. The CRM pilot programs will accomplish this by providing long-term and short-term technical assistance and by supporting research and training necessary to prepare and implement CRM policies and programs. AID will select a U.S. institution or consortium of institutions capable of backstopping the long-term CRM advisors serving as Country Program Managers, providing linkages among pilot program, managing networking activities, regional workshops, and publicizing CRM methods to the other LDCs and AID Missions.

The CRM Project Director will manage the project on a daily basis, identifying, hiring, and backstopping the Country Program Managers placed in country; disseminating information on CRM to the field; locating and arranging for short-term consultants needed in-country; and publicizing the results of pilot programs to other countries in the region and globally. Country Program Managers with experience in coastal development and marine sciences will work with host country institutions responsible for coastal resources and will facilitate the development of a coordinated interagency approach to coastal resource management including the preparation of CRM policies and programs.

Research on topics designed to facilitate the development and implementation of a CRM plan will be supported by this project and will be conducted principally by host country institutions with assistance in the design and review of studies from U.S. experts and institutions. Training will be an important component, because host country nationals trained under this project will take a key role in continuing the process of managing a host country CRM program. Short-term technical assistance will be provided by U.S. experts in CRM and the marine sciences and will focus on policy and technical studies and evaluations needed to develop and implement a CRM plan.

Based on U.S. experience, 3-4 year CRM pilot programs in selected LDCs can expect to achieve some or all of the following objectives: assist countries to designate an institutional arrangement that supervises development planning in the coastal zone; draft policies and legislation to govern the development and management of major critical resources such as fisheries, mangrove forests, ports and harbors, coral reefs, and beaches; train host country professionals to better manage coastal development through improved technical and planning skills; publicize the economic benefits of CRM to both the host country coastal population and decision-makers.

C. Implementation

Three pilot programs of 4 years duration each will be initiated in staggered sequence in selected LDCs in up to three geographic regions. The PP proposes that the first pilot program be sited in Ecuador in the Latin American and Caribbean Region beginning in early FY 85; a second pilot in Sri Lanka in the Asian region beginning in FY 85; and a third pilot in Asia in FY 86. The

staggered start-up sequence of pilot programs will allow the CRM project to draw on the experience of earlier pilot programs in the implementation and management of later pilots.

The S&T LOP budget for the CRM project is \$5.0 million with a range in pilot program budgets from \$ 551,000 in Sri Lanka, which requires only a modified pilot, to a high of \$ 1,226,000 in Ecuador. Countries were selected on the basis of the following criteria: significance of expected pilot program outcome; regional applicability of the country's coastal resource problems, development opportunities, and probable institutional solutions to CRM; the nature and commitment of Mission resources to the pilot program; the host country commitment and contribution including recognition of the need for CRM and evidence of the political will to give institutions the mandate and enforcement capacity to improve CRM; host country capacity in terms of trained personnel available to work with the CRM pilot program; economic importance of the country's coastal resources, including their economic development potential and the costs of resource degradation problems. The success of the pilot programs will depend upon significant financial and political support by the Missions and host country institutions as well as their continuing commitment to CRM after the pilot program has ended.

PART II. PROJECT DESCRIPTION

A. Rationale

The CRM project directly utilizes the four major development approaches emphasized by the Agency: policy dialogue, private sector support, technology transfer, and institution building. One of the chief objectives of the pilot program is to initiate policy dialogue about the benefits of CRM with the many agencies responsible in each country for some aspect of natural resources in the coastal area. Technology transfer is a hallmark of this project, since the ideas and methods of CRM that this project will impart have been developed and tried out principally in the U.S. Since effective CRM will require a long-term commitment on the part of the host country institutions and adequate capacity of their planners and technicians, the pilot programs are designed to emphasize institution building: research grants will be given to local institutions and short-term training opportunities and workshops arranged for host country professionals. The CRM project will also foster the private sector by developing opportunities for small enterprises utilizing coastal resources such as artisanal fisheries cooperatives and aquaculture industries.

The CRM project is also responsive to the Agency's Environmental Strategy. CRM methodology emphasizes more effective management of renewable coastal resources using integrated approaches to regional planning and development. CRM entails the preparation of rational plans in which each development sector is assessed for its effects on other resources in the closely interconnected coastal zone.

Common theme networks will be developed and maintained throughout the life of the CRM project. Particularly in the Asian and Latin American regions, Missions and countries are aware that they face similar problems in the sound development of their coastal zones. Some of the major common problems that the CRM project will address are: the institutional problem of coordinating multiple agencies to administer the coastal zone; and the technical problems of conserving mangrove forests to maintain shrimp pond yields; protecting coral reefs; and siting industries in ways that minimize negative impacts on tourist beaches and fisheries and shell fisheries resources.

Host country professions in the different pilot countries will be able to share technical information about common coastal resource management problems through project-supported workshops, seminars, short courses, research, and the publication and dissemination of papers and documents reviewing technical aspects of individual resources and of CRM.

B. Background and Need

1. Description of LDC Coastal Resources: Problems and Needs

Coastal resources are of major economic significance in developing countries. The majority of LDCs are coastal states or islands, and their coastal ecosystems contain rich natural resources capable of supporting a

variety of activities and serving diverse human needs for food, energy, shelter and other commercial development. Two-thirds of the world's population live near the coast, and a majority of the world's largest cities (39 out of 66) are in coastal areas. In terms of food sources alone, the productivity of coastal areas is impressive: over 90% of the world's fish catch comes from the continental shelf and upwelling regions, and approximately 8% of the world's total animal protein comes from the sea. One fifth of the world's oil production comes from offshore.

Coastal development opportunities occur in many sectors. Mangrove swamp forests can be utilized commercially as timber, woodchips for pulp, or bark tannins for leather curing. Fisheries opportunities exist in harvesting, processing, and marketing of coastal food fishes and shellfish, as well as in mariculture projects. Energy development includes fuelwood and charcoal production, principally in mangrove forests; offshore oil and gas development; and wind generated and offshore thermal energy conversion. Agricultural opportunities exist through the conversion of coastal lowlands for large-scale rice production or plantation production of rubber, coconut or banana. Tourism can be increased by the identification and development of appropriate sites as well as by construction of adequate physical infrastructure and human resource development to manage the sites and facilities. Port and urban development consists of siting, constructing, and modernizing port, waterfront, and industrial facilities, and water and wastewater treatment facilities. Mining sector opportunities include production of salt, minerals, ore, and coral.

There is increasing pressure in LDCs for rapid development of coastal resources by both government agencies and private economic interests, which regard coastal areas as underutilized. However, LDCs often lack the conceptual, scientific, administrative, and legislative basis to treat their coastal areas as integrated geographic systems within national economic planning or broad sectoral planning.

Typically coastal development has evolved in response to the pressures of individual sector interests, which plan development independently and do not adequately consider the effects of one form of exploitation upon another development activity. Currently, LDC planners are frequently forced to move ahead in coastal development before they have fully evaluated development alternatives. Consequently, many coastal resources are susceptible to negative impacts, and the potential is great for severely reducing the long-term productivity of the system.

Sound coastal zone development requires an overview and integration of the plans and policies of different sectors. LDC governments need improved technical and planning expertise to: (a) coordinate sectoral proposals, (b) evaluate economic and ecological trade-offs, and (c) devise broad plans which optimize the productivity of major coastal resources. The unmanaged growth of competing demands for coastal space produces congestion, conflicts among uses, and ultimately loss of economic assets of the coastal resource base itself.

A number of current coastal zone problems in LDCs demonstrate the risks of resource degradation associated with lack of technical planning expertise and political will to undertake integrated coastal resources management.

a. Natural Resource Issues

(1) Depletion of fisheries resources. Some stocks have been eliminated and some reduced due to disturbances such as loss of habitat and food supply associated with coral reef destruction, seagrass bed deterioration, mangrove clearing, and overfishing. Other species have contaminated flesh due to pollution from industrial, urban, or agricultural sources. For example, San Miguel Bay in Bicol, Philippines is overfished, due in part to conflicts between trawlers and artisanal fishermen.

(2) Coastal land erosion. Loss of natural buffers like coral reefs and mangrove swamps due to development or mining leave the natural coastline vulnerable to erosion through wave and current action. Reef destruction along the heavily populated southwest coast of Sri Lanka has eroded the shoreline and undermined both the railroad tracks and the main coastal road in some locations.

(3) Degradation of coastal agricultural lands. Canal construction, mangrove clearing, and alteration of river flow and tidal patterns leave coastal lands vulnerable to salinization or acidification. Near-shore banana plantations in Ecuador lack protection from the sea as mangroves are converted to shrimp ponds.

(4) Marine pollution. Numerous coastal waters are polluted due to inadequate or non-existent domestic and industrial waste treatment. Pesticides from agricultural runoff enter and pollute fisheries-rich estuaries. Poor harvest and processing practices in the fishing industry lead to the common practice of throwing the shrimp by-catch on shallow nearshore waters where it spoils. The resulting poor water quality is a public health hazard, contaminates fish and shellfish areas, decreases fish yields and deters tourism and recreation development. Jakarta Bay in Indonesia has classic and severe marine pollution problems, yet is an important source of fish, a staple in the Indonesian diet.

(5) Natural coastal hazards. Erosion storms, flooding and their consequences threaten life and property, causing both annual and catastrophic damage. Changes in the "El Nino" offshore current in 1983 led to major coastal flooding in Ecuador and Peru.

b. Institutional Issues

(1) Incompatible siting of development. Incompatible land uses along the coast diminish the economic advantages of coastal locations. In Ecuador, a fishmeal processing plant has been sited adjacent to a tourism development where it degrades the water and air quality.

(2) Multiple use conflicts. Policy disagreements over appropriate uses of the same resource diminish resources under single sector management approaches. For example, in Indonesia large tracts of outer island mangroves are being converted to accommodate new settlements under the government's transmigration policy of moving people off Java. Mangroves have multiple uses such as forestry, fuel, and fisheries habitat, which are lost when they are converted on a large-scale basis for colonization.

(3) Insufficient and inadequately trained management personnel. Coastal resource management requires trained people to analyze problems, recommend alternatives, and implement solutions. The very limited pool of trained manpower in Indonesia strains that country's ability to manage its vast coastal areas.

(4) Lack of clear institutional responsibility for coastal zone management. When no single institution has oversight responsibility for the coastal zone, sectoral development planning tends not to be adequately integrated, and incompatible or multiple uses for single resources are planned and implemented before the conflict is discovered.

Each of these problems suggests LDC needs in diverse aspects of the integrated management of coastal resources. Addressing these needs by identifying and resolving conflicts among uses of resources is a key feature of coastal resource management.

2. Current LDC Interest in Coastal Resources Management (CRM)

In recent years, developing countries have expressed increasing interest in coastal resource management^{1/} and have taken steps to enhance their capacity for focused and integrated planning and management of coastal areas. Several countries have already requested assistance from AID Missions for activities related to coastal resource planning and management. In general, the programs are relatively small, as this is an emerging area of interest in both LDCs as well as in the development assistance community.

For example, Sri Lanka has made good use of AID technical assistance to design a coastal data atlas with inventories and maps of its coastal resources, as well as to prepare a four year action plan for the development of its national coastal management plan. In Thailand, the Mission is assisting the government in the area of environmental management for the planned development of the multi-billion dollar Eastern Seaboard industrial-port-energy complex. Specialists in environmental impact assessment, air quality, water resources, solid waste, and coastal zone management will assist Thai agencies in planning and evaluating this region-wide coastal development. The Mission also has assisted the Thai government in the preparation of environmental guidelines for coastal zone management of its resort areas, all of which face pressures from conflicting uses such as tin mining and need environmental controls to protect economically significant coastal resources.

^{1/}CZM or coastal zone management is the term developed in the U.S. by the federal and state programs responsible for planning and managing development along the coast. The term CRM, coastal resource management, emphasizes resources, de-emphasizes the regulation implied by the term "zone," and designates a concept broader than the U.S. model alone.

Jamaica has also undertaken specific coastal resource management projects, specifically the development of a coastal hazard management program to reduce potential loss of life and property damage due to natural disasters, with an emphasis on reducing hurricane, storm, and flood damage.

More than 40% of the 50 AID countries with coastal zones are participating in the United Nations Environment Program (UNEP) Regional Seas Program initiated in 1974. Action plans have been adopted for six regions (Mediterranean, Kuwait Region (Persian Gulf), Wider Caribbean, West and Central Africa, East Asian Seas, and Southeast Pacific) and are being developed in two additional regions: the Red Sea and Gulf of Aden and the Southwest Atlantic. These action plans specify regional approaches to management of shared ocean and coastal resources and include steps to: control land-based marine pollution, limit ocean dumping of toxics, assess environmental trends, project aquatic resources and increase the capacity of local officials, through education and training efforts, to make decisions and manage coastal resources.

More coastal nations have recently extended their jurisdiction over coastal waters (up to 200 miles from their shores) by declaring an exclusive economic zone (EEZ). This institutional change is already significantly affecting the development of the fisheries sector in LDCs by: stretching enforcement capabilities; underscoring the need for better information on stock assessment in order to develop and implement sustained yield fisheries management plans; and by challenging coastal nations to obtain the maximum benefits from their geographically expanded fisheries resources.

A number of specific examples exist. Singapore is developing its offshore islands into recreational resorts. Thailand has completed a general national master plan for coastal land development and is now preparing 25 provincial coastal land development plans. Kenya has established marine national parks which protect coral reefs. Panama has developed guidelines on development near beaches and dunes. Sri Lanka has enacted comprehensive coastal management legislation which gives the government authority for issuing permits over all development occurring in Sri Lanka's coastal zone. Indonesia has established several national marine parks over the course of the last decade.

Other examples of emerging LDC interest in coastal resource management include ad hoc institutional arrangements focusing on a single coastal resource. For example, National Mangrove Committees have been created in several countries (among them Thailand, Indonesia, and Venezuela) with assistance from UNESCO to bring together university scientists and qualified governmental agency staff to review development proposals affecting mangroves coordinate research, and serve as an advisory group to government. International conferences on topics such as coral reefs, oil spill prevention, and clean-up, and coastal engineering bring together government officials and scientists from LDCs and provide further stimulus for coastal resource management activities within specific countries on periodic, ad hoc basis.

. 3. Mission Interest In Coastal Resource Management (CRM)

Numerous ongoing AID-funded sectoral activities take place in coastal areas or affect coastal resources. Many of these sector projects would benefit from linkages with integrated coastal resource management efforts.

ASIA

(a) In the Philippines, a major cross-sectoral assistance program, the Rainfed Resources Development Program, deals with agriculture, agroforestry, and fisheries and is intended to help the very poor coastal population in selected target regions. A CRM approach would make explicit connections between fisheries management and habitat (particularly mangroves and coral reefs) that are prime sources of fish and need protection. The Mission's Local Resources Management project is designed to enhance local administrative capabilities and could focus on CRM in its targetted areas which involve coastal provinces. The Mission's Energy Technology for Fisheries project could benefit from connections with broader efforts to assist artisanal fishermen through coastal habitat protection.

(b) In Sri Lanka, the Mission's Reforestation and Watershed project focuses primarily on upland areas. Since upland areas have major impacts on coastal resources like fisheries, ports, tourist beaches and coral reefs, this project would benefit from integration with a CRM approach. Sri Lanka has a major ongoing coastal management program that could provide useful input.

AFRICA

(c) In Gambia, the Gambia River Basin Development project could incorporate coastal development and resource protection into its schemes.

(d) In Senegal, the Mission has several projects that address coastal areas and could benefit from a comprehensive coastal resource management approach. The Casamance Regional Development Project, located in a coastal area, is developing dikes and drainage structures to bring additional coastal lands into use. The inclusion of a coastal component in this project could promote an integrated approach to resource development, by assessing the potential for fisheries development, monitoring the effects of water channelization and agriculture development on the coastal environment, evaluating integrated mangrove/agriculture development schemes, and incorporating these analyses into revisions of the regional master plan. The Mission's Integrated Development project could benefit from a CRM approach to the Senegal River estuary that would consider together various resources of the built, natural, economic and social environment. The Mission's Reforestation and Dune Stabilization project already addresses specific coastal issues. Its potential could be increased by incorporating other related issues such as natural coastal hazards mitigation and compatible development siting standards.

NEAR EAST

(e) In Oman, the Mission's technical assistance for development of the national offshore fishing industry could benefit from a CRM approach by considering offshore as well as onshore coastal development needs and marine pollution problems.

LATIN AMERICA

(f) In Ecuador, the Mission's Forestry Sector Development project could benefit from an integrated CRM approach to the problems of mangrove conversion to shrimp ponds and reforestation of arid and semi-arid coastal lowlands by addressing these issues in a broader coastal context. The Rural Technology Transfer project could assist and enhance the development of artisanal fishing villages, through a more comprehensive CRM approach that would address habitat protection, infrastructure development, and natural hazards protection needs.

4. Nature and Transferability of U.S. Coastal Resource Management Experience

a. Federal and State Programs

In 1972, after many years of debate and an increasing public recognition of the losses, both economic and environmental, being caused by uncontrolled and rapid degradation of the nation's coastal resources, the U.S. Congress passed the Coastal Zone Management Act. This Act established a broad national framework of principles to guide the 35 coastal (including Great Lakes) states and territories in development of coastal management programs. These programs were intended to set priorities for development and conservation of specific resources and areas within each state's coastal zone and to establish mechanisms for resolving conflicts over coastal resources and uses that were bound to arise in these highly competitive and desirable areas.

Under the federal program, which is administered by the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce, all coastal states and territories were provided both financial and technical assistance in the development of comprehensive coastal management programs over a period of 5 years. The individual states have each developed a Coastal Management Plan, consisting of identification of the primary coastal resources that the state will regulate and outlining the parameters for their use and development.

The hallmark of the coastal management experience of the various coastal states has been the comprehensive and integrated approach to managing the concentration of natural, economic and man-made resources found in the area where the land meets the sea. In the United States, the coastal management process generally has involved the following activities:

(1) Determination of the nature and extent of resources, uses and sources of degradation. Normally this has involved inventorying and mapping of various coastal resources such as wetlands and mangroves, coral reefs, other fish and wildlife habitats, scenic and historic resources, etc.

(2) Development of policies and regulations to encourage protection and/or utilization of coastal resources. For example, in high-risk erosion areas, construction requirements such as setback distances or building standards can alleviate damage from storm surges.

(3) Review of existing legal authorities and responsibilities of various governmental agencies, and establishment of new laws or organizational entities as needed. Often this review reveals that what is lacking is not the legal authority to manage coastal resources but rather a lack of coordination, enforcement or trained personnel to carry out existing laws and programs.

As a result of more than a decade of practical experience in coastal zone management, the coastal states and territories in the United States have developed a wide variety of ways for dealing with coastal problems. While this experience is not transferrable in whole, given differences in the nature of resources problems, political traditions and cultural patterns, many of the technological and institutional responses may be useful for other countris in addressing similar resource issues. For example:

(1) Mangroves and Wetlands:

- Many states have established performance standards and permit requirements to allow for selective use of these areas while preventing degradation from excessive or inappropriate utilization of wetlands.
- In Louisiana, research and regulation have been combined to develop a way to lay pipelines on shore without undue disturbance of valuable wetlands.

(2) Coral Reefs

- American Samoa has developed an atlas identifying the varieties of coral reefs surrounding the island as the first step in designing a management policy.
- Coral reefs off the Florida keys are protected by the National Marine Sanctuary Program administered by NOAA. Buoys, with weatherproofed signs, warn against the harm done by anchoring in, standing on, or breaking the corals.

(3) Fisheries Resources:

- In New England, conflicts between commercial and sport fisherman have been resolved by allocating different areas of the water for their use.

- The National Marine Fisheries Services, a part of NOAA, works with states on a regional basis to develop fish management plans based on habitat requirements and maximum sustainable yield.

(4) High Risk Erosion Areas:

- States, such as those in the Gulf and the South Atlantic that are most susceptible to storm damage, have worked with NOAA's National Hurricane Center in Miami to develop storm evacuation plans.
- Still more states have used flood plain maps developed by the Federal Emergency Management Agency (FEMA) to establish set-back lines and building standards to protect against damage from floods.

(5) Ports and Industry:

- New Jersey has identified areas where natural gas pipelines from off-shore wells can be brought on shore with relatively little impact on important fisheries, wetlands or beaches.
- Massachusetts has been actively helping local fishermen by assisting in the siting and construction of docking facilities and processing plants.
- The state of Washington has worked with one of its major ports to develop an acceptable dredging program -- one that allows the port to expand but still protects valuable wetlands nearby.

Two lasting contributions of the U.S. coastal management program are also relevant goals for LDCs. First, coastal management has become an integral function of day-to-day governmental activity in most coastal states. Planners and decision-makers are aware of the special needs of the coastal zone and take them into account. Second, a significant number of people exists who are trained in and committed to coastal resources management. This includes natural scientists, planners, coastal managers, governmental officials at the federal, state, and local levels, university researchers, entrepreneurs, private consultants, and citizens.

b. University Marine Science Training and Research Programs

The United States has a long academic legacy in both the theoretical and applied aspects of coastal and marine resources management. At present there are approximately 180 universities, colleges and institutes which are involved in some aspect of marine affairs. Of these, 41 institutions offer substantive curricula in the field as defined by Sea Grant class designation. Many of these same institutions have also participated in various international activities through the International Sea Grant Program or joint cooperative agreements with counterpart institutions in the developing world. Typical of these are the universities of Hawaii, Rhode Island and Delaware. There also exists several multi-disciplinary marine research institutes, most of which

are associated with universities. For example: ICMRD at U. of Rhode Island, IMS at U. of Washington, and CWR at Louisiana State U; Woods Hole Oceanographic Institute; and Scripps Oceanographic Institute.

c. Private Sector

In the private sector there are a large number of firms which have developed expertise of one or more elements required in the CRM project. Generally, these firms can be divided into four groups. They are: (1) the large coastal and marine engineering companies which have extensive experience in macroscale development projects (port development, oil and gas facility siting, etc.) much of it in developing countries (2) the large consulting companies which have extensive in-house environmental and natural resource capabilities; (3) the smaller consulting companies that cater to a range of AID's needs through in-house administrative capabilities recruiting technical expertise from the outside; and (4) a few small for-and not-for-profit firms and organizations which work principally with coastal and environmental issues.

B. Process for Selection of Countries

In preparing the coastal resources management project PID, S&T/FNR surveyed all AID coastal countries to assess their suitability as sites for a CRM pilot program. Surveys were conducted in Washington and based on both interviews with Agency personnel familiar with the countries as well as on descriptive documents such as CDSSs, ABSSs, and country environmental profiles. There were 46 AID countries with coastlines, and 13 of these met the criteria used to indicate probable pilot program success.

Cables were sent to the Missions in these countries inquiring about both host country and Mission interest in the project and willingness to contribute to it. Five countries were selected as having good potential (Ecuador, Indonesia, Philippines, Sri Lanka, and Thailand), and a trip was made to each to evaluate in detail the advisability of siting a CRM pilot program there.

Six criteria for country selection were defined for the team to use in evaluating the suitability of each country visited:

- (1) Significance of expected CRM program outcome: the likelihood of passage of improved legislation, implementation of improved CRM management practices, creation of a CRM authority and/or development of a CRM program or plan.
- (2) Regional applicability: relevance of a country's coastal resource problems and development opportunities to other countries both inside the region and beyond; relevance of a country's political and social solutions to CRM to other countries;
- (3) Host country commitment and contribution: recognition of the need for CRM and evidence of the political will for government institutions to mandate and implement improvements in the management of coastal resources, including resources to be allocated to the CRM program;

(4) Host country capacity: institutional arrangements and linkages among planning and sectoral agencies; numbers of trained personnel employed in resource planning and management related to number needed to manage country's coastal area; type of line agencies responsible for coastal resources, and institutions engaged in or capable of necessary coastal research;

(5) Economic importance: economic dependence of the host country on coastal resources for subsistence and employment; development potential of resources; and current economic costs of resource degradation, indicating degree of need for better CRM;

(6) Mission interest and support: Mission resource commitment; relevance of CRM program to Mission focus and activities; likelihood of S&T pilot program leading to bilateral follow-on project; direct involvement of Mission Director and senior staff.

The team consisted of the S&T Project Manager, a regional bureau representative, and two specialists in CRM from the National Oceanic and Atmospheric Administration (NOAA) serving in a consultative capacity. Field visits were conducted during October - November, 1983, and consisted of detailed discussions with Mission staff and host country government institutions. In each country a preliminary project design was prepared that described: which host country agencies should participate; linkages to the Mission portfolio; objectives of a pilot CRM project; and a series of probable CRM research projects, training needs, and activities to be undertaken by the Country Program Manager that would be funded by the program should that country be selected. (see Annex A for individual country reports.)

The five countries visited were evaluated as follows:

a. In Latin America, Ecuador was determined to be well suited as a site for initiating a CRM program. Mission interest in and willingness to commit substantial financial and personnel resources to the CRM project was higher than any other candidate country, and the Mission indicated that it intended to use the program to design a follow-on bilateral effort.

The Mission Director was strongly interested in the CRM project; senior level staff would be assigned to it and would work in close association with the Country Program Manager for the CRM project. The Mission has several sources of funds to draw upon and was willing to earmark money for use in conjunction with the CRM project for an estimated total commitment of resources of approximately \$900,000 with an additional possibility of up to \$1,600,000. The host country share would be approximately \$810,000-\$1,440,000 of this, because all but \$150,000 (PDS funds) pledged by the Mission are loan funds. The host country will also contribute both office space for the Country Program Manager in whatever institution is designated as the lead agency as well as the staff time of representatives from all Ecuadorian institutions participating in the CRM working groups.

The Mission views the Country Program Manager as a valuable resource for the Mission to draw upon in design of a follow-on project. Moreover, the CRM project would coincide with the Mission's decision to open a branch office in Guayaquil, with a focus on addressing coastal development issues more effectively. Governmental interest in CRM and capability also are strong. While Ecuador has neither a central environmental authority nor a single agency responsible for the coastal zone, interest in environmental management is growing and the time appears right for a significant institutional development in the environmental area. The highly publicized issue of sustainability of the very profitable shrimp industry is an excellent starting point for a CRM project, as it involves both the government and the private sector.

b. In Asia, all countries visited were interested in participating in the CRM project. A decision has been made to select two Asian countries for pilot programs.

(1) The first Asian pilot will be in Sri Lanka, which represents a unique opportunity to produce a documented model for other LDCs, especially island nations. Sri Lanka is well along in development of a comprehensive coastal management program. The Government of Sri Lanka already has passed a Coast Conservation Act giving one agency - the Coast Conservation Division (CCD) - the authority to develop a coastal management plan and for oversight authority for all development activities in the coastal zone. The Sri Lanka pilot program would also require a smaller AID investment than that required for other pilot programs.

While the CRM project in Sri Lanka would not serve a catalytic role, it would enhance on-going activities by expanding the scope of the CRM plan and increasing the capacity of the CCD staff to administer and implement the program. Present GSL budget calls for approximately \$62,000 for activities to develop and implement the CRM plan over the next four years. Moreover, the likelihood is great that Sri Lanka's efforts over the next three years will produce a documented result in the form of a management plan and permit review procedures that can be readily disseminated to other countries in the region and to island nations, for whom Sri Lanka's experience will be particularly relevant.

Although the Mission expressed strong interest in AID's having a continuing leadership role in Sri Lanka in the field of environmental management, this project is not viewed as leading to any Mission follow-on.

(2) The second Asian pilot has been tentatively selected as Indonesia although final selection will require continued communication with the Mission and the development of the Aquatic Resources Development Project in a way complementary to the S&T CRM Project.

The Ministry of the Environment (MKLH) is very eager for the program and so are the Mission staff, who believe that a successful S&T CRM program would have a significant impact on future Mission planning. Given the enormous extent of coastal resources and problems in Indonesia, a pilot S&T CRM project would be most useful as the first phase of a long and sustained effort. One program design consideration favored by some in Indonesia is a geographic focus on a single island, given the limited CRM pilot program funding and the size of the CRM management task in Indonesia.

USAID/Jakarta is now designing a bilateral project in the field of Aquatic Resources Development. This would permit their large-scale support of CRM. They have also identified two other projects that can be used to fund the complementary studies: the Development Studies Project and the Agricultural Technology Transfer Project.

Host country contribution would include office space at the MKLH and/or one of the Host Country Environmental Study Centers, as well as staff time from both these institutions. In particular, MKLH is planning to hire a full-time marine biologist who would be available to work with the CRM project.

(3) Thailand would be suitable for a full pilot program and is similar in needs and readiness to Ecuador. S&T will continue communications with USAID/Bangkok until FY 85 when final selection of the second Asian pilot will be made.

The Thais have a strong group of well-trained people, particularly in the two leading candidate agencies, the National Environmental Board (NEB) and the National Economic and Social Development Board (NESDB), and in the academic/research community. The Royal Thai Government plans to spend \$5 billion over the next 10 years on industrial development of the Eastern Seaboard Region. The Government already has requested approximately 9 months of short-term environmental, including CRM, expertise for the Eastern Seaboard Region, from AID/Bangkok using loan funds. The host country would contribute to an S&T CRM pilot program office space in either NEB and/or in NESDB, in the Eastern Seaboard Authority offices, both of which are eager to acquire expertise from the U.S. in CRM. In addition, staff time from both agencies would be anticipated. A CRM program would be able to capitalize on current government interest in and sensitivity about coastal development issues in the Eastern Seaboard and elsewhere.

The AID Mission in Thailand is very enthusiastic about using a Country Program Manager's expertise to help the Mission begin to work with the RTG in the field of natural resources including CRM. The Mission is prepared to contribute a minimum of \$100,000 to \$200,000 annually for four to five years from the Emerging Problems of Development Project to support

research and policy studies on Natural Resources Management topics including CRM. Because Mission Director Halligan has stated that a follow-on bilateral CRM project is unlikely, S&T must evaluate the consequences for long-term continuity of CRM in Thailand.

c. Africa and the Near East During preparation of the Project Identification Document (PID), four countries in the Africa and Near East Regions - Kenya, Senegal, Oman and Tunisia - were identified as potential candidates for CRM pilot programs. Cables of inquiries to these Missions indicated incipient interest, but not a strong enough response to warrant a visit by the CRM project design team in FY 83.

PART III. PROJECT ANALYSIS

In-depth project analyses that address the specific country context will be done for each pilot program once the pilots get underway. Preliminary analyses for the overall CRM project are included here to indicate the general soundness of the CRM project in regard to the relevant economic, technical, social, and environmental issues.

A. Technical Analysis

The project's principal components are technically feasible as the capability exists to perform the required tasks.

1. U.S. Coastal Resource Management (CRM) Institutional Capability

The United States has developed a wide range of technical and administrative expertise for managing coastal zones over a ten year period under a federally mandated and funded and state-managed CRM program. The United States also has a long academic legacy in both the theoretical and applied aspects of coastal and marine resources management, including universities and multi-disciplinary marine research institutes with a variety of specializations and international experience. There are also a number of private sector firms that have developed expertise in CRM, such as marine engineering firms specializing in port development, oil and gas facility siting, and coastal environmental assessment.

2. Country Program Manager

The use of long-term in-country advisors and field representatives is a common AID practice. The role outlined for the Country Program Manager is feasible: i.e., to work with host country institutions that administer coastal resources and to facilitate development of a coordinated inter-agency approach to coastal resource management, including the design of CRM policies and programs. Recruitment of a qualified Country Program Manager with both practical coastal zone management expertise, as well as overseas experience, who is acceptable to the Mission and host country, will be accomplished through the hundreds of individuals who have worked in coastal management in the United States. Many of these same individuals have requisite overseas experience through the Peace Corps and studying overseas. In addition, individuals who have worked in the five U.S. territories that have active coastal management programs -- the Northern Marianas, Guam, American Samoa, Puerto Rico, and the Virgin Islands -- may not need explicit non-U.S. overseas experience, as these territories have some of the characteristics of the pilot program countries.

3. Research and Short-Term Assistance

The candidate countries for the CRM project all have universities and governmental research institutions with a clear capacity to undertake applied research as part of the CRM project. Numerous research projects have been completed, are underway, or are proposed that will facilitate the CRM project.

Where short-term U.S. technical consultant assistance may be required, numerous private contractors, PVOs, NGOs, governmental agencies at the federal, state, and local levels, and universities have experienced staff willing and able to serve as short-term consultants on diverse aspects of the CRM project, from the design of coral reef surveys to institutional analyses. Several formal and informal networks of experts exist that can be tapped readily to provide the specific expertise needed in the course of the CRM project.

4. Training

Training is a standard and necessary component of institution-building projects. The Country Program Manager will identify candidates for formal and informal training.

Study tours to state coastal management agencies can be arranged due to the existence of numerous agencies that are familiar with the importance of information exchange, and are willing to host visitors from LDCs.

Training in environmental assessment of coastal development activities is technically feasible due to the more than a decade of U.S. experience in this field, countless workshops held and training packages prepared, some aimed specifically at the needs of developing coastal nations.

Training in both technical and administrative aspects of CRM is important, because effective CRM will require long-term commitment actively carried on by host country professionals after the LOP of the AID project.

B. Social Soundness

The project is socially sound. There are no social, cultural, or other barriers that detract from the recognized value put on the sustainability of coastal resources in a general sense. However, specific country issues will require use-by-use analysis and will be treated as annexes to this Project Paper. The direct beneficiaries of this project are the host country governmental counterparts of the Country Program Manager and others trained during the course of the CRM project. These beneficiaries include: policy-makers, senior government agency staff, professional staff, planners, developers, scientists, and researchers. The disciplines and professions of these direct beneficiaries span numerous fields including: marine biology, forestry, civil engineering, oceanography, agriculture, fisheries, energy, planning, economics, and law. The project activities will meet the expressed needs of these beneficiaries by exchange of information at workshops and seminars, education through training, study tours and fellowships, transfers of U.S. expertise and experience, and assistance in designing and carrying out applied CRM research.

The indirect beneficiaries include people who live, work, or visit in their coastal zone, particularly those who depend on coastal resources for their livelihood, food, and health and who will benefit from sustainable, non-degrading use of coastal resources. For example, if marine pollution from

sewage effluent or fish by-catch disposal practices adversely affects local fishing and public health, improvement in marine water quality may raise the income of local fishing populations and contribute to a better, healthier diet for coastal and inland residents. Indirect benefits are likely to occur slowly but steadily during and after the program as the process of CRM is institutionalized.

Regional benefits also should occur for other developing coastal nations through information exchange such as publication of project experiences and achievements, and regional and international conferences on CRM topics.

C. Economic Soundness

Specific coastal resources make significant contributions to the national economies of LDCs, employ considerable numbers of people, provide major sources of foreign exchange, and form the basis of human survival and economic existence for many people. These resources include: fisheries, agriculture, minerals, oil and gas, tourism, and mangrove forests. Yet conflicts abound on the uses of these resources and urgent, short-term pressures for development threaten their long-term sustainability. Solving some of these conflicts will have substantial economic value.

Because of the wealth of experience and expertise developed and already underwritten in the American practice of coastal zone management, it will be cost effective to undertake institution-building in this field where the U.S. has a comparative advantage over other donors. Through the program's information exchange, results can be made widely available, at minimal costs, thereby avoiding duplication of efforts. Finally, the results of the CRM project should increase the certainty and predictability of coastal development decision-making, which should facilitate public and private investment.

D. Environmental Impact

No environmental assessment is required, according to AID's revised Environmental Procedures, 22 CFR, Part 216 (c) (2) as the project consists of advisory services and analyses.

PART IV. Logical Framework

1. Goal. The goal is to assist LDCs to develop and better manage their coastal resources on a sustainable basis through integrated approaches to regional planning and development.

Developing countries are currently risking the economic potential of many coastal resources by non-integrated development in the coastal zone. Institution-building and research are needed to transfer and develop better coastal resource management practices. These practices must be linked to national development planning and operations to produce the ultimate benefits intended. Most goal achievement will occur after the original five year pilot program. Ex-post evaluation would be required to verify goal achievement.

2. Purpose. The purpose is to strengthen LDC institutions to develop an integrated (i.e. cross-sectoral) system for managing coastal resources. This integrated system is needed: to identify current and potential resource conflicts among coastal resources; to explore institutional and technical solutions to resource use conflicts; to identify and support research on topics that can resolve resource management issues; to promote public and private sector cooperation; and to create an integrated system of coastal resource management involving the line agencies, environmental agency, and planning authority responsible for coastal resources.

The S&T CRM project through its individual pilot programs will link researchers, resource managers, policy makers, development planners, and private sector interests. It will foster better communication among development sectors that are competing to use the same coastal resource or ecologically linked resources. It will improve host country access to U.S. coastal zone management technology and expertise. It will improve the technical information base which is used for development decisions, resource management techniques, and development planning capabilities.

Each three to four year long pilot program period (time frame varies among countries) is not long enough to achieve a fully operational CRM program, but the groundwork should be laid for an effective institutional arrangement after four years. A major evaluation (about three years into the program) should verify this trend.

3. Inputs AID project inputs are budgeted as indicated below in the CRM Project Budget. Total S&T obligation is \$5.0 million. Additional Host country and Mission funds will be expended on activities complementary to the pilot programs to be identified by and coordinated through the Country Program Managers.

CRM PROJECT BUDGET ^{1/}

	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>TOTALS</u>
1. Project Management									
a. U.S. institution costs ^{2/}	50	13	142	142	142	142	142	28	821
b. Networking activities	30		30	30	30	30	30		180
2. Project Elements (for 4 pilot programs)									
a. Country Program Manager			135	250	250	135	115		885
b. Short-term Technical Assistance			65	85	85	50	30		315
c. Research			80	70	80	30	20		280
d. Training			50	80	30	60	10		230
e. Regional Outreach Activities/ Training Materials			30	65	75		30	75	275
f. Evaluation				15	70	30	15	115	245
Subtotal	80	13	532	737	762	477	392	218	3211
3. Contingency (@ 10%), and inflation (@ 5%)		3	110	147	153	98	80	48	
4. Overhead (50% on all items except salary of Country Program Manager)	20	7	199	249	256	171	139	109	
Total Expenditures	100	28	841	1133	1171	746	611	375	5000
Cumulative Expenditure	100	123	964	2097	3268	4014	4625	5000	
S&T Obligation	100	400	700	1200	1100	900	500		
Cumulative Obligation	100	500	1200	2400	3500	4400	5000		

¹ Figures are given in 000's. S&T anticipates that the total amount spent on CRM pilot programs will exceed the total shown in this budget when funds are included from Missions, Regional Bureaus, and Host Country Governments that will be allocated to complementary activities to be identified and coordinated by the Country Program Managers. Individual pilot program budgets for Ecuador and Sri Lanka are shown in the descriptions of those projects.

² This estimate reflects the assumption that an overhead rate of 50% will be charged by the Contractor and that a lower rate of overhead will be charged on the Country Program Manager's salary. U.S. institution costs include salaries of Project Director, Assistant, Secretary, travel, office supplies, telephone calls and cables.

4. Outputs. Three multi-year pilot programs, in Latin America and Asia which lead to improved institutional, administrative, scientific, and technical capability to manage coastal resources. Each pilot program will have some or all of the components listed below. In addition, improved U.S. institutional capability to transfer CRM technology to LDCs will be a result of this project.

A U.S. institution with specialized expertise in and commitment to CRM will: (a) develop linkages to selected LDCs; (b) provide a U.S.-based Project Director and resident Country Program Managers in each country with a pilot program; and (c) assist the LDCs through oversight and backstopping of the Country Program Managers and through information dissemination to develop the institutional arrangements for a CRM program capable of reviewing and evaluating development options in the coastal zone.

a. Country Program Manager: 2 long term advisors will work in-country for two years up to life of the pilot program, depending on capability of host country professional to succeed U.S. manager. They will work with key host country line agencies as well as the national planning board and environmental authority to establish an Interagency coastal resources management (CRM) review group. That group will review all coastal development plans and coordinate activities in a way that mitigates inter-sectoral impacts and optimizes sustainable productivity of coastal resources. The Manager will work through host country counterparts and will foster the development of a permanent institutional arrangement responsible for coastal development activities.

b. Short-term Technical Assistance approximately 45 Missions using U.S. experts in CRM and marine sciences will be supported to provide backstopping to the Managers in the field. These resource persons will participate in program activities, assist program evaluation, and provide other training and consulting services in support of the program.

c. Research: The CRM project will provide U.S. experts to assist in the design and review of research projects and will provide grants to host country institutions to carry out studies on topics that (1) resolve resource management issues for policy formulation and (2) improve and standardize the data collection and analysis of coastal resources that serves as the basis for development decisions.

d. Training: Participation will be supported in 6-8 national and regional workshops, 2-4 U.S. study tours, academic courses and research institutions designed to improve professionals' ability to manage coastal resources and to formulate sound development plans in the coastal zone. Training will include short-term academic courses in the U.S. or other countries in the region; and informal study tours, on-the-job training, and fellowships at regional institutions. Long-term (up to 24-month) training in the U.S. or region may be supported by Mission funding and coordinated by the Country Program Manager.

e. Global/Regional Outreach: Document publication and information dissemination, regional workshops, and networking advisory services by the CRM Project Director will be supported in order to publicize the results of CRM pilot programs and to guide and facilitate CRM activities in other LDCs.

f. End of Project Status: The following conditions should exist at the end of the LOP in each country where a pilot program was funded if the purpose of the pilot program has been achieved:

- (1) replicable methods for facilitating improved LDC CRM will be developed;
- (2) institutional and technical solutions to CRM conflicts are recognized and utilized;
- (3) research has been completed and the results can be applied to facilitate management policies and development decisions;
- (4) an inter-agency working group regularly reviews development proposals for coastal resources;
- (5) adequate technical information is available for coastal zone development decisions;
- (6) improved skills exist among the professional staff responsible for managing coastal resources.

g. Assumptions: A number of assumptions underlie the design of the CRM project by AID: current LDC coastal issues and trends accurately indicate LDC needs to improve their resource management capacity; technology transfer and research can improve LDC CRM practices; LDC national policy and programs will apply improved CRM methods if they are developed by host country agencies.

The design of pilot programs reflect the following assumptions:

- technical assistance can strengthen institutional capacity to foresee coastal resource development conflicts and to plan for mitigation of negative impacts;
- an integrated system of CRM involving inter-agency cooperation can improve an LDC's development planning process;
- there will be a host country institutional location for the professional trained to replace the AID Country Program Manager;
- the expertise for Country Program Managers and short term consultants is available in the U.S. and can be supplied through this project.

PART V. QUALIFICATIONS AND SELECTION OF CONTRACTOR/GRANTEE

A. Selection of Contractor/Grantee

AID SER/CM published a request for expressions of interest in the Commerce Business Daily that described the CRM project and outlined the qualifications necessary in a contractor. Numerous potential contractors responded, and their qualifications to administer a multi-year technical assistance project in LDCs and to attract qualified individuals to fill the key long-term and short-term advisory positions were reviewed and evaluated.

Currently S&T/FNR is evaluating the most suitable contracting mechanism given the institutional expertise available and interest in carrying out this project. The relative advantages of contracting vs. granting mechanisms are still being compared.

The project calls for advisory services, which indicates that a contract could be the appropriate mechanism for administering this project. A contract is feasible with one of the many private firms that has a staff with expertise in the field of coastal management and experience managing projects overseas.

It may, however, be judged more appropriate for the CRM project to be administered under a grant mechanism, given the manner in which the services are to be offered and the institutional goals of the project. A grant would allow AID to support an organization for the purpose of helping to carry out, improve or expand an activity already sponsored by the organization. In particular, the type of grant known as a cooperative agreement is used to support or stimulate the recipient's own program or project and entails substantial involvement by AID in the program of the grantee. Under a cooperative agreement, AID's involvement is on a partnership basis, as opposed to the relationship established under a contract where the Agency specifies in advance and acquires specific goods or services for its own use or benefit.

B. Institutional Qualifications

A U.S.-based institution will manage the CRM program on a daily basis and will backstop the Country Program Managers in the field. This role will involve both substantive and logistical responsibilities and will require the following qualifications:

The organization selected must have the administrative and technical capacity to manage a project with multiple pilot-programs in two geographical regions. Technical capacity should include a long-standing commitment to environmental and coastal zone management in the U.S. as well as some overseas experience. The pilot programs will have to be individually designed to meet host country conditions and open-ended to evolve throughout the LOP. Consequently, the implementing institution will have to be able to work cooperatively with AID on a continuing and long-term basis to design the programs.

The institution must possess the following qualifications in order to administer the CRM project effectively: (a) a reputation for excellence in project management and a high value placed on management expertise by the institution; (b) the capacity to provide full-time personnel qualified to manage both the substantive and administrative aspects of the CRM project; (c) direct-hire staff with demonstrated capability in the management of land and nearshore marine resources and knowledge and experience in developing countries in different geographic regions; (d) access to a wide range of technical experts with coastal resources management experience in state programs in the U.S. and in tropical developing countries; (e) access to the research community in the U.S. and overseas dealing with tropical coastal resources; (f) demonstrated long-term commitment to CRM and interest in a continuation of institutional linkages with LDCs beyond the life of the AID project; (g) language capabilities in Spanish; (h) experience in applying problem solving techniques among competing sectors.

In terms of logistical support, the institution must be able to perform the following activities quickly and efficiently so that excessive time is not consumed in contracting or other administrative tasks: (a) contracting for Country Program Managers (when personnel must be hired who are not currently on staff); (b) contracting for short-term consultants; (c) making travel arrangements for Country Program Managers, short-term consultants, and the Project Director; and (d) making logistical arrangements for international or regional workshops.

C. Project Director Qualifications

The contractor/grantee must designate a Project Director who will be able to provide both substantive and logistical administration of the CRM project. In order to manage this project effectively, the Project Director must possess the following qualifications:

- (1) extensive contacts in U.S. coastal resource management;
- (2) demonstrated administrative experience and expertise managing a complex project;
- (3) experience in the design and implementation of development projects;
- (4) experience doing and managing research;
- (5) overseas experience, preferably in developing countries; and
- (6) a background in the marine sciences or land use planning;
- (7) institution-building experience or experience in facilitating the development of appropriate institutional arrangements to review multisectoral proposals in an integrated way;
- (8) graduate degree in either the marine sciences or a planning field related to coastal areas.

PART VI. PROJECT IMPLEMENTATION

A. Phasing and Time Frame of Pilot CRM Projects

In view of limitations on funding for each year of the project and administrative considerations, it is recommended that the CRM project be implemented in three phases as follows:

Phase I - Latin America and the Caribbean

The first pilot activity will begin in early FY 85 within the LAC region in Ecuador. The Mission and host country are both prepared and interested in starting project activities as soon as possible (see supporting documents in Annexes A and B).

Phase II - Asia

Based on the strong interest in CRM in a number of Asian countries, pilot programs are possible in two countries in the Asian region. Following Ecuador, a second pilot activity will begin in the Asia region in FY 85, probably in Sri Lanka; a third pilot could begin there in FY 86 in Indonesia or Thailand depending on Mission resource commitments and linkages.

The Sri Lankan pilot can start up as early as possible, because the host country needs the assistance to fit into an ongoing schedule for implementation of a CRM plan. Since a modified pilot will be established there, i.e. one without a U. S. expert serving as Country Program Manager, the start-up time and effort required will be reduced. The Sri Lankan pilot activity will be administered on a daily basis by a counterpart administrator who will take care of logistical arrangements for short term experts and processing of vouchers; on an overall basis the Sri Lankan Pilot program will be administered by the U.S.- based Project Director, who will visit Sri Lanka once or twice a year to review the pilot's progress. Arrangements will be made to have a USAID Mission representative play a liaison role.

As soon as possible once the Sri Lanka pilot program is underway, a consultant with CRM experience and excellent writing skills will be sent to Sri Lanka to research and write an educational document. This document will chronicle the 20-year history of Sri Lankan experience culminating in the passage of CRM legislation and the mandate to prepare a national CRM plan. This document will be distributed to other coastal AID countries and used in regional workshops and networking activities of the CRM projects to guide and facilitate CRM activities in other LDCs. A second document that chronicles the preparation of the Sri Lankan CRM plan during the life of the AID CRM project will be prepared and published in FY 88, after the termination of the Sri Lankan pilot.

A second Asian pilot activity could be started in FY 86 and requires additional discussion with the Indonesia and Thailand Missions to determine their level of interest and likely commitments of resources to complementary

activities. Indonesia has been tentatively selected as the third site on the basis of the Aquatic Resources Development Project, which has the potential to provide significant bilateral follow-on to the S&T CRM pilot, which S&T believes is essential to fulfill. The objectives initiated by the CRM pilots. S&T/FNR will continue discussion with USAID/Jakarta will depend on the ARDP design complementary to the S&T CRM pilot. Discussions will also be continued with USAID/Bangkok about the possibility of a pilot CRM project there. A decision will be made by AID in FY 85.

The Schedule of Key Events in the next section provides a time frame to guide overall project implementation.

B. Schedule of Key Events

A tentative schedule of events has been prepared to give an overview of steps the Project Director will need to take throughout the LOP. This schedule is necessarily tentative and will be updated annually during FNR management review.

DRAFT SRI LANKAN PILOT PROGRAM BUDGET¹

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>TOTAL (S&T)</u>	<u>MISSION & GSL²</u>
<u>I. Technical Assistance</u>							
<u>A. Pilot Program</u>							
administrator	20	20	20	20		80	
<u>B. Short Term Technical Assistance,</u>							
7-5 PM @ \$10K	15	15	15	20		65	
<u>II. Research Support</u>	30	20				50	
<u>III. Training</u>							
a) In-country Workshop				20		20	
b) 1-month study tour to U.S. to State CRM programs		10				10	
c) 3-In-country short-term training courses		10	10	10		30	
<u>IV. Regional Outreach Workshops</u>		65				65	
<u>V. Evaluation³</u>			15		15	30	
Subtotal	65	140	60	70	15	350	
Overhead (50%)	23	60	20	25	8		
Subtotal	88	200	80	95	15		
5% inflation	5	10	4	5	1		
10% contingency	9	20	8	10	2		
Subtotal of inflation, contingency, overhead						241	
TOTAL	102	230	92	110	17	\$558	

¹ Figures are in units of 000's.

² S&T anticipates that more than \$570 will actually be spent on CRM activities in Sri Lanka when Mission and host country funds and in-kind contributions for complementary activities are included. Mission contribution is estimated at \$125, plus staff time to oversee the pilot program and possible support for study tours. GOSL contribution is estimated at \$62,608 for CRM plan development, plus the time of one full-time and two part-time staff members of the CCD, plus office space, secretarial support, and in-country travel for the pilot program administrator and short term experts.

³ Includes salary, travel and per diem for one U.S. expert and salary of one host country professional for three weeks.

⁴ Overhead included on items I,B, II, III, IV, V.

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Table I Schedule of Events

FY 84

<u>Month</u>	<u>Contractor/Grantee</u>	<u>Ecuadorian Pilot</u>	<u>Sri Lanka Pilot</u>	<u>3rd Pilot</u>
August	Selection of Institution			
September				
October				
November				
December				

FY 85

October	Designation of Project Director			
November				
December	Preparation of Preliminary Plan ^{1/} for Ecuador	Preparation of Preliminary Plan (by PD) ^{1/}		

^{1/} Preparation of preliminary pilot program plans by Project Director is noted both under Contractor/Grantee activities and under individual pilot activities for clarity.

FY 85 (Cont.'d)

<u>Month</u>	<u>Contractor/Grantee</u>	<u>Ecuadorian Pilot</u>	<u>Sri Lanka Pilot</u>	<u>3rd Pilot</u>
January		Negotiation of JPA		
February		Selection of Country Program Manager		
March		Start-up pilot	Preparation of Preliminary Plan (by PD)	
April		Annual Work Plan (by CPM)	Negotiation of JPA/Designation of host country Administrator	
May	Networking: PD travel to Asian countries to advise on CRM		Annual Workplan (by hc administrator)	
June			Preparation by consultant of chronicle of Sri Lankan experience in CRM to date	
July		In-country workshop		
August	Travel to Asia to to evaluate sites for 3rd pilot			
September	Announcement of 3rd site			

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FY 86

<u>Month</u>	<u>Contractor/Grantee</u>	<u>Ecuador Pilot</u>	<u>Sri Lanka Pilot</u>	<u>3rd Pilot</u>
October				Preparation of Preliminary Plan (by PD)
November				Preparation of JPA
December				Hiring of CPM
January			Publication of chronical of Sri Lanka CRM experience	
February				Start-up of Pilot
March	Annual Project Monitoring Review	Annual Project Monitoring Review		Annual Workplan
April		Annual Work Plan (by CPM)	Annual Project Monitoring Review	
May			Annual Work Plan	
June			Asia Regional Workshop utilizing document of Sri Lanka experience	
July		Mid-pilot evaluation		
August				
September				

FY 87

<u>Month</u>	<u>Contractor/Grantee</u>	<u>Ecuador Pilot</u>	<u>Sri Lanka Pilot</u>	<u>3rd Pilot</u>
October				
November		LAC Regional Workshop		
December				
January				
February				Annual Project Monitoring Review
March	Annual Project Monitoring Review	Annual Project Monitoring Review		Annual Workplan (by CPM)
April	Networking: PD travel to other LAC countries to advise on CRM	Annual Work Plan	Annual Project Monitoring Review	
May			Annual Work Plan	
June				
July			Mid-pilot evaluation	
August	Mid-project evaluation			
September				

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FY 88

<u>Month</u>	<u>Contractor/Grantee</u>	<u>Ecuador Pilot</u>	<u>Sri Lanka Pilot</u>	<u>3rd Pilot</u>
October				
November	Networking: PD travel to additional LAC countries to advise on CRM			
December		Final pilot evaluation		
January				
February			Publication of chronicle of SL experience	Annual Project Monitoring Review
March				Annual Work Plan
April			Annual Project Monitoring Review	
May			Annual Work Plan	
June				
July				
August				Mid-pilot evaluation
September				

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FY 89

<u>Month</u>	<u>Contractor/Grantee</u>	<u>Ecuador Pilot</u>	<u>Sri Lanka Pilot</u>	<u>3rd Pilot</u>
October				
November			Final pilot evaluation	
December				
January				
February				Annual Project Monitoring Review
March				Annual Workplan (by CPM)
April				
May				
June				
July				
August				Evaluation of Pilot
September				

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FY 90

<u>Month</u>	<u>Contractor/Grantee</u>	<u>Ecuador Pilot</u>	<u>Sri Lanka Pilot</u>	<u>3rd Pilot</u>
October				
November				Asia Regional Workshop utilizing final S.L. document
December				
January				
February				
March				Final pilot evaluation
April				
May				
June				
July				
August	Final Project Evaluation			
September				

C. Design and Implementation of Country Programs

The first task of the institution selected to implement the CRM project will be to put in place a qualified Project Director, who will be approved by the AID Project Manager. The Project Director will have overall responsibilities for the CRM project. In assisting S&T/FNR and the host countries to design and implement the CRM Project, the Project Director will generally follow the schedule of key events set forth in Section VI, B. For each country selected to participate in the project, the process outlined for the first country, Ecuador (Section V. C. 5), for design and implementation of the pilot program will be followed unless specific modifications are indicated in the PP or JPA (see Section C. 2. below).

1. Role and Responsibilities of the Project Director

The Project Director's responsibilities will involve both substantive and logistical work backstopping the Managers in the field and providing linkages among pilot programs. It will include the following range of activities:

- o Assist S&T and the Missions in designing the pilot activities in each region, in negotiating the Joint Program Agreements in each pilot country, and in overseeing the implementation of pilot programs by the Country Program Manager;
- o Identify and select candidates for Country Program Managers; coordinate with ST/FNR, Mission, and Host Country in selection of Country Program Manager; make logistical arrangements for Country Program Manager in country;
- o Foster linkages among pilot CRM programs by providing information on common management problems and approaches; assisting in arranging information exchanges among Country Program Managers, host country nationals and Mission personnel; working with Country Program Managers to design and run regional CRM workshops;
- o Identify and/or make logistical arrangements for short-term assistance, including short-term consultants requested by Country Program Managers;
- o Assist Country Program Manager(s) in developing in-country training opportunities, identifying trainers, and making logistical arrangements for training workshops and other opportunities;
- o Administer a research grants program for each of the pilot programs;
- o Design and arrange study tours or longer-term education programs in the U.S. or in other S&T CRM project countries for host country nationals;

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- o Develop interest in CRM in other AID Missions and coastal countries through:
 - (1) collection, preparation, and dissemination of information related to pilot program activities
 - (2) response to general inquiries about CRM from field missions;
 - (3) assisting in regional or international workshops, symposia;
 - (4) visiting Missions and host countries in the Latin America, and Caribbean, African and Near East regions to provide information about CRM to Missions that become interested in supporting additional pilot programs;

2. Negotiation of Joint Program Agreement (JPA)

The key event in the design of each country program will be the preparation of a Joint Program Agreement (JPA) which will be worked out in country by the Project Director, the S&T Project Manager, and representatives of the host country, Regional Bureau, and Mission, and signed by the cooperating organizations.

The Agreement shall include the following:

- o description of pilot program goals and objectives in the host country context;
- o a presentation in schematic and narrative terms of how the program inputs will be used to achieve stated objectives;
- o job description and qualifications for the Country Program Manager;
- o definition of the priority events which require short-term technical assistance;
- o a preliminary research agenda, budget, implementation schedule and process for submission, review, and funding of proposals, and;
- o a training agenda, budget, and implementation schedule;
- o designation of host country counterpart staff, amount of host country costs and the process for accessing it, and description of host country role and responsibilities throughout the LOP;
- o specification of type and amount of Mission resources committed to CRM activities; process for coordinating this with the CRM project; discussion of Mission role and responsibilities;
- o specification of type and amount of support to be given by S&T/FNR;
- o an evaluation plan for the pilot program;
- o detailed schedule of events by month for the first year of the project and a more generalized schedule of events for the rest of the LOP.
- o specification of activities involving coordination with other donors.

3. Management of Pilot Programs

Each pilot program will be managed on a day-to-day basis by a resident Country Program Manager.

a. Selection of Country Program Managers

Based on the job description and qualifications stipulated in the JPA, the CRM project contractor/grantee will identify appropriate personnel for the CPM positions. If sufficient personnel are not already on staff, the contractor/grantee will advertise the Country Program Manager position through various media including: the NOAA/OCRM newsletter, the Coastal States Organization, the Peace Corps Newsletter, and the international environment and development community in Washington.

Applicants' resumes will be screened by a selection committee composed of the Project Director, the S&T Project Manager, and regional bureau representatives. A short list of candidates will be sent to AID Missions and appropriate Host Country institutions for their review. After AID/W written approval, final candidates may be sent to the field for Mission approval before being hired. The AID Project Manager will approve the hiring of successful candidates in writing.

b. Qualifications

In each pilot program, a Country Program Manager with expertise in coastal resource development will be placed in a host country for two to four years. This individual will play a major role in insuring the success of the CRM project.

The qualifications for the Country Program Manager should include: a graduate degree in the marine sciences or in a planning field related to CRM; coastal zone management experience in the areas of program design and implementation and in coordinating policy and research activities; facilitating public-private sector cooperation; and working among disciplines and agencies with different orientations and missions. He/she should be generally familiar with U.S. techniques and expertise in the field of coastal resource management. The Country Program Manager should also have a scientific background in one of the fields relevant to coastal resources, such as fisheries, ecology, marine biology, forestry, energy, oceanography or anthropology.

Experience living, working or studying overseas, particularly in an LDC, is desirable. The Country Program Manager must be willing to make commitment to a 2-4 year overseas assignment.

Depending on the pilot countries selected, knowledge of that country's language may be essential. In the case of Ecuador, knowledge of Spanish is essential. In Indonesia and Thailand, knowledge of Baha Indonesian and of Thai would be highly desirable; at a minimum, the ability to learn these languages quickly would be essential.

In terms of personal qualities, the Country Program Manager should be a self-starter, able to work in undefined and unstructured situations without supervision. The Country Program Manager should be able to translate complex and/or technical concepts into lay language. He/she should be adaptable and sensitive to other cultures.

c. Role and Responsibilities

Each Country Program Manager in cooperation with the Mission and host country institutions will manage the implementation of the CRM Joint Program Agreement through prepared annual work plans and budgets subject to the approval by the Project Director, the S&T Project Manager and the Mission project manager. He/she will be responsible for coordinating all project inputs in order to achieve project objectives; providing guidance for project-related decisions required during the life of project; and assisting in coordination of interagency activities. The implementation of the range of activities will require a high degree of cooperation by host country institutions and individuals. It will be the Country Program Manager's role to encourage others to assume leadership and responsibility for implementing program activities with the objective of transferring total responsibility by the end of his/her tenure.

The Manager should maximize the linkages that exist between the program's various elements in order to make best use of the available CRM resources. For example, technical assistance brought into the country for one purpose may be used to accomplish other objectives such as training through short courses, advising on research activities, or lectures or seminars at universities.

The Manager's institutional affiliation in-country will be determined during negotiation of the Joint Program Agreement, and the final decision will be approved in writing by the AID Project Manager.

It will be the Country Program Manager's responsibility to determine an initial operating mode which will establish effective working relationships with the relevant host-country institutions. The Manager will work with high-level host country policy makers, technical staff, representatives of the research community and NGOs, local government officials and Mission staff in developing a long-term program of coastal resources management for the host country to implement. The Country Program Manager will serve as a reference point for all host-country institutions addressing coastal issues and will facilitate discussion and formulation of strategies for their resolution. The CPM will confer regularly with the Mission liaison officer and keep the Mission informed of all contacts made with host country agencies.

While the specifics of the Country Program Manager's role will be tailored to the particular circumstances found in the pilot program countries, in general his/her role will involve:

- assisting the host country in publicizing through workshops, seminars, and training opportunities offered to government officials, university researchers, and key members of the private sector, the economic benefits of coastal resource management and examples of how CRM can be accomplished;

- promoting activities such as greater cooperation and coordination between national level environmental agencies, planning boards, and sectoral implementation agencies responsible for coastal resources that will lead to a CRM program;
- assisting host country officials to develop a framework for coastal resource management policies and programs;
- promoting the incorporation of coastal resource management concepts into the planning and implementation activities of local governments and district offices of national agencies through workshops and information dissemination at the local level;
- assisting host country institutions to focus applied research and needed data gathering activities on topics that will directly facilitate development of a CRM program; supporting the in-country academic/research community in conduct of needed research; identifying targets for short-term technical assistance that will contribute to the design and carrying out of research; administering the process established in the JPA for reviewing research grant proposals and awarding them;
- identifying host country staff in government agencies at both national and local levels and in NGOs who would benefit from short or long term training in-country or abroad arranging for funding through the CRM project or Mission funds; planning training workshops for host country personnel and regional representatives that utilize short-term advisors;
- identifying and working closely with a host country counterpart who can succeed him/her in the last year or two of the AID pilot activity and who can take a leadership role in the host country CRM program continuing after the end of the AID pilot.
- keeping a record of activities throughout the LOP that can be used to publicize for other countries lessons learned in implementing a CRM program.

The Country Program Manager will be housed principally in the appropriate host government agency along with a staff assistant although in some countries he/she may also have an office in the Mission. The staff assistant should be a host country national, familiar with the host country institutions with whom the Country Program Manager will be working. The staff member's duties will include helping the Country Program Manager: (1) to process short term consultants' contracts and scopes of work and research grants to local institutions and (2) to review work products upon their completion.

4. Components of Pilot Programs

Each pilot program will consist of an appropriate combination of the five major components of the CRM project: long- and short-term assistance; training; research; and regional outreach. These will be presented in general terms in the JPA and specifically outlined in the annual workplans.

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a. Short-term Technical Assistance

Under the guidance and budgetary control of the U.S.-based Project Director, the Country Program Manager will administer a small annual budget for short-term advisory services to meet specific needs throughout the life of the program. The Project Director will consult with the AID Project Manager and the Mission liaison officer in identifying and selecting specialists. Starting in the first year, the Manager will begin to identify opportunities for specialized assistance and expertise as needed.

The Manager will prepare the scopes of work for selected specialists to be brought from the U.S. and, through the U.S.-based Project Director, will obtain the services of individuals or teams to analyze coastal problems and provide recommendations to solve them.

Short-term advisors may be used to:

- (1) design research projects and work with host country institutions to implement them, reviewing progress periodically;
- (2) do evaluations of technical CRM problems and prepare recommendations about alternative solutions;
- (3) advise institutions in the design of management plans and programs;
- (4) train host country nationals in various technical and policy aspects of coastal resource management.

b. Research

With the written approval of the AID/S&T/FNR Project Manager and the concurrence of the Mission liaison officer, the CRM project will also provide research grants. These will be given to capable host country institutions to support research on coastal resource topics that will aid in project implementation and that will enhance sound planning and execution of coastal development. The process for announcing, reviewing, and awarding grants will be established in the JPA. Research grants on issues that are common to other LDCs in the region will receive priority in funding allocations, because the results of such research will have wider value. There will be some overlap in the use of CRM project funds for technical assistance and for research, because U.S. specialists will be brought in to assist host country institutions in designing and executing research topics.

Research topics may be both policy-oriented and technical in nature. Research should be short-term and focussed on specific coastal resource management issues in the country that need to be solved in order to implement a CRM plan. The range of research topics that may be supported is broad and may involve the following coastal sub-sectors: fisheries, forestry, energy, agriculture, tourism, port and urban development, and coastal mining. Examples of subjects include:

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- implementation of programs for mangrove forest exploitation which conserve strategic portions of the resource;
- preparation of a regional plan for coastal investment that specifies a sustainable combination of conservation and exploitation;
- design and construction of mariculture projects planned in accordance with ecological guidelines to ensure sustainability;
- design and implementation of policies governing offshore oil and gas development that take into account the protection of other coastal resources in the area; and
- identification of strategic natural areas and implementation of a plan to protect them for diverse purposes, including fisheries' nurseries and breeding grounds, coastal stabilization and tourist attractions;
- evaluation of the resource management needs in the coastal zone that will contribute to the preservation of biological diversity.

c. Training

The Country Program Manager will be responsible for identifying training needs and programs to meet the needs of different levels of government officials, including senior policy makers, mid-level planners, technical staff, local officials, and regional staffs. Final award of training support funds will require written approval by the AID/ST/FNR Project Manager.

Training will be of two sorts: (1) general coastal management program development and (2) specific resource management techniques, such as methods of maintaining needed mangrove salinity, environmental impact assessment and mitigation techniques, and permit administration.

Because of the relatively limited amount of funds available for training purposes, the most cost effective use of these funds will be to concentrate on in-country training. Workshops that can accommodate a number of host country participants using outside experts will be organized. Some training funds will be used for sending host country nationals to the U.S. for short-term training in coastal management or the marine sciences, supporting attendance by key professionals at international and regional workshops and seminars, and for sending host country program participants on short-term study tours of coastal management activities in the U.S. and other countries. Long-term training may be supported by Mission funds and coordinated by the Country Program Manager.

d. Regional Outreach

The CRM project will establish common theme networks among LDC institutions working on similar CRM problems. Both in the area of technical resource management issues requiring research, such as the

integrated management of mangrove forests and shrimp ponds, and in the area of institutional problems, such as coordinating the review and planning of coastal area development, the CRM project will support regional workshops and the preparation, publication, and dissemination of documents reviewing technical and institutional information.

The Country Program Manager in collaboration with the Project Director will organize regional and international seminars, workshops, and conferences to document and explain the lessons learned in the CRM program and to stimulate the development of CRM activities in other AID countries. Counterparts from each pilot program will be involved in the planning and in the outreach activities to a significant degree. These outreach efforts will include hosting visits of government officials, researchers, and others from other developing countries facing similar coastal problems. The timing, location, and content of proposed regional outreach efforts will be subject to the approval of the AID Project Manager.

5. Ecuadorian Pilot Program

a. Pilot Program Objectives

The Ecuadorian CRM project will last three years and will aim to create an Ecuadorian inter-agency working group to identify existing coastal resource use conflicts, explore solutions, promote public and private sector cooperation, and lay the groundwork for creation of an integrated system of managing coastal resources. This will require inventories of the available information on coastal natural resources, economic pressures on the coast, management issues, and the present legal-institutional framework for coastal resource management. Initially the program will focus on the development problems and opportunities of the southern coast in the provinces of Guayas and El Oro, where the shrimp pond industry is concentrated. Ultimately, the program will aim to develop national policies that would guide development along the entire Ecuadorian coast. It is anticipated that the S&T pilot activity will assist in identifying a longer term bilateral project funded by the Mission which will build on the S&T/FNR pilot program.

b. Preparation of a Joint Program Agreement (JPA)

One of the first responsibilities of the U.S.-based Project Director will be to prepare in collaboration with AID Washington a preliminary plan for the first pilot program. This preliminary plan will be based on the AID/NOAA Country Assessment (Annex A) and other information and will provide the basis for discussions with USAID/Ecuador and GOE in preparing the Joint Program Agreement (JPA). Once the preliminary plan is approved by the S&T/FNR CRM Project Manager, the Project Director will then travel with the S&T/FNR Project Manager to work out a formal Joint Program Agreement that will include the elements of the JPA indicated in Section VI. C. 2. The length of time of the agreement will be approximately three years.

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In addition to these items, the Ecuadorian JPA will address the following issues which are relevant in the Ecuadorian context:

(1) Role and Responsibility of Host Country Institution: A precise determination of host country institution roles and responsibilities cannot yet be made. Currently no GOE agency has a comprehensive mandate for coastal zone management or for environmental quality monitoring, although a number have expressed interest in working with AID on this topic. Selection of the lead Ecuadorian agencies that will work with the CRM pilot program will be accomplished during negotiation of the Joint Program Agreement. Initially it is expected that the Country Program Manager will be attached to the Mission in order to be free to work with all members of the interagency working group.

The following GOE institutions will probably participate in a GOE CRM working group::

(i) in the Navy, DIGEM, the Directorate of General Maritime Interests; DIGMER, the Directorate General of the Merchant Marine and Coast; and INOCAR, the Navy Oceanographic Institute;

(ii) in the Ministry of Natural Resources and Energy, the Undersecretary for Fisheries; the National Fisheries Institute (INP); and the National Forestry Program (PRONAF);

(iii) the National Development Council (CONADE);

(iv) the State Petroleum Corporation (CEPE);

(v) the Polytechnic University of the Coast (ESPOL).

(vi) Two private sector groups, the Association of Bioaquatic Species Growers, ACEBA, and the Nature Foundation, (Fundacion Natura), are also key actors that should be involved in the CRM project's activities.

It is anticipated that a total of approximately \$400,000 in in-kind contributions and activities complementary to the CRM pilot program will be supported by these host country institutions.

(2) Relationship of CRM Project to Mission and Host Country Program USAID/Quito strongly supports the S&T CRM project and views the Country Program Manager as someone who can make a significant contribution to the Mission, creating and identifying linkages with key institutions, people, and issues for a future USAID bilateral coastal management project. The CRM Manager will have an office in the Mission branch office being opened in Guayaquil.

Mission funds will support activities complementary to the CRM program, identified and coordinated by the Country Program Manager. Mission and host country contributions to the CRM project will come from the following sources:

- (i) the approved FY 85-86 Fisheries Sector Development Project, with a budget of \$ 900,000;
- (ii) Program Development and Support Funds (up to \$ 150,000);
- (iii) the ongoing Forestry Sector Development Project (support for a full-time mangrove forest manager and up to \$ 50,000 to support research and training in mangrove-related topics);
- (iv) the ongoing Rural Technology Transfer Project (to support complementary subprojects ranging from \$ 30,000 to \$ 500,000 in the National Institute of Fisheries and the Polytechnic University of the Coast).

(3) Coordination of CRM Project with Other Donors: The Country Program Manager should coordinate with the British Overseas Development Agency (ODA) shrimp management manager and identify complementary opportunities for a U.S. short-term expert. In addition, the CRM project should involve the UN Ocean Technology and Economics Branch staff, who were instrumental in initiating coastal management activities in Ecuador in 1981, in order to promote continuity in this field.

The development of the JPA will require substantial input from USAID/Ecuador and various Ecuadorian individuals in the GOE, academic institutions, and the private sector. Upon completion of the draft of the document it will be circulated for review and written approval by the Office Director of S&T/FNR and LAC/DR.

c. Start-up Activities

(1) Annual Workplan Preparation

The project will formally begin upon the arrival of the Country Program Manager in-country when he/she begins the implementation of the Joint Program Agreement. The Manager should begin immediately to prepare a schedule of implementation (or workplan) for the JPA.

This workplan will build upon the detailed schedule of events prepared for the JPA (Section VI. C. 2) and will indicate the schedule of activities anticipated on a monthly basis, who will be involved in accomplishing them, and how they will be accomplished. The workplan will require significant input from the GOE, USAID, S&T/FNR and the Project Director. It will be prepared in detail for the first year and revised annually. It will be circulated to S&T/FNR and LAC/DR for comments and will require written approval by the S&T CRM Project Manager.

(2) Familiarization with CRM Issues

The Manager will also spend an initial period familiarizing him/herself with the country's coastline, coastal issues, coastal community, and

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governmental approaches to its administration, and making contacts and establishing working relationships with the Ecuadorian professionals who will be key to the development of an Ecuadorian CRM program.

Should the Country Program Manager decide in consultation with GOE institutions, the Project Director and USAID/Quito that it would be useful, the CRM project could be launched with a workshop under GOE institutional auspices during the first year of the pilot program. The workshop would include key individuals with coastal interests and/or responsibilities from the government sector, AID Mission and U.S. Embassy, academic and research community, private sector and international donor agencies. The purpose of the workshop would be to publicize the objectives and program of the AID CRM Project and to involve in a substantive way as early as possible the key Ecuadorian actors on whom the ultimate success of CRM in Ecuador will depend. The workshop should reflect the country's coastal issues and indicate the steps that the AID project expects to go through to facilitate development of an Ecuadorian CRM program. In addition, a workshop designed specifically for senior decision-makers in GOE may be justified in order to solicit more active cooperation between government agencies.

These workshops can also be held later if more appropriate. Others, such as regional workshops, will be proposed in annual workplans.

(3) Reviews and Assessments

The Country Program Manager will also undertake or coordinate others to undertake reviews and assessments that will facilitate the country's development of a coastal resources management program. These should be carefully selected to launch CRM activities and could include the following types of topics: reviews of the country's coastal resources and its critical problems; review of the country's coastal policy and legislation; review of the roles of the relevant institutions and of key individuals. These reviews will serve as the basis for a coordinated host country inter-agency approach to coastal management whose implementation will be facilitated by the Country Program Manager.

(4) Document Collection

During the first year, the Country Program Manager will also begin to stimulate and to assist the appropriate Ecuadorian agency to collect Ecuadorian documents and publications relevant to Ecuadorian coastal resources. The goal should be to build a technical data base using the university and research community in Ecuador and the contractor's network in the U.S. This literature compilation will facilitate the application of the program's technical resources. The process will be continued during the LOP with increasing responsibility to be assumed by GOE institutions.

d. Elements of the Ecuadorian Pilot Project

(1) Short-term Technical Assistance

The specific short-term advisors needed by the Ecuadorian project will be determined by the Country Program Manager and his/her counterparts and presented in each annual workplan indicating types of expertise, length of time, costs, etc. The following topics illustrates likely possibilities: (1) developing a geographic information system (GIS) for coastal resources; (2) assisting the Undersecretary of Fisheries to develop a comprehensive shrimp-mangrove research program; (3) helping the National Fisheries Institute design inventory programs; (4) assisting the Association of Bioaquatic Growers (ACEBA) to develop as an effective trade association and disseminate information about shrimp production; (5) establishing a national work plan for coastal management program development; (6) analyzing the economics of shrimp mariculture; (7) reviewing GOE legislation, policy and jurisdiction on CRM; (8) identifying key CRM conflicts, and (9) scoping needed applied natural hazards research.

(2) Research

A research agenda that builds upon this preliminary agenda in the JPA will be prepared by the Country Program Manager in collaboration with the working group of counterparts that will be established. The research will be management-oriented, designed to facilitate development of a CRM program and to assist GOE agencies in implementing the research results. Each annual workplan will contain specific research proposals and identify how the research will be used in the pilot program, its principal investigator and budget.

Several lines of inquiry appear to be important at the outset and could be carried out by investigators at the following institutions: ESPOL, the National Fisheries Institute; INOCAR, the Navy Oceanographic Institute; CLIRSEN, the National Remote Sensing Institute, and/or other groups with the assistance, as necessary, of U.S. short-term consultants.

(a) Shrimp pond management is of critical overriding importance, and research should be supported that would result in preparation by the GOE of a comprehensive shrimp management plan. Research on diverse aspects of the shrimp-mangrove issue should build upon the research of two AID/Science Advisor projects: "Shrimp Pond Siting and Management Alternatives in the Mangrove Ecosystems in Ecuador," Snedacker, et al, University of Miami (funded and underway) and "Remote Sensing of Mangrove Biomass and Water Properties Related to Fisheries Productivity," Klemas et al, University of Delaware (funding under consideration). Mangrove reforestation techniques could be developed and tested. Non-destructive mangrove/mariculture diversification techniques could be explored.

(b) Inventories of coastal resources critical to developing a comprehensive coastal management program should be initiated. Monitoring systems and data collection, retrieval, and dissemination systems are needed.

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(c) Regional development agencies and municipal planning bodies need guidelines on development location (setbacks) and construction techniques (e.g., building on stilts). Research on coastal hazards and the proper siting of shoreline development in terms of beaches, dunes, erosion, and shoreline processes could be supported.

(d) Coastal industrial facilities (e.g., petrochemical and fishmeal and fish processing facilities) need guidelines for compatible siting with other uses such as tourism development along the coast.

(e) Regional planning bodies could utilize research on the effects of coastal resource development on rural agricultural and/or fishing populations.

(3) Training

The Country Program Manager in cooperation with GOE institutions will prepare a training plan for inclusion in each annual workplan. The program will be designed to promote the effective development and implementation of a CRM program by the GOE. In particular training may be planned for a host country professional designated to succeed the Country Program Manager. Such training could be accomplished a U.S. institution through a 2-year M.S. fellowship or through short-term training opportunities or study tours to U.S. coastal zone management programs.

The training plan may include:

- (a) one month study tours to U.S. state coastal management agencies arranged in states with comparable resource and management issues, such as South Carolina, Louisiana, Puerto Rico, and Florida, as well as to Washington, D.C. to meet AID, NOAA, National Park Service, and others to facilitate the development of the Country Program Manager's key counterparts at an early stage in the program. These will provide opportunities to learn the practical aspects and ways of overcoming the difficulties in developing a comprehensive coastal management program; and
- (b) short-term training in-country, in the region, or in the U.S. at marine science institutions for key host country professionals.
- (c) In addition, longer term training fellowships for U.S. graduate degree programs in marine science and coastal zone management may be appropriate, but these would have to be supported by the Mission. Candidates would be recommended to the Mission by the Country Program Manager in consultation with the S&T Project Manager and appropriate GOE agencies.

e. DRAFT ECUADORIAN PILOT PROGRAM BUDGET¹

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>TOTAL (S&T)</u>	<u>MISSION² & GOE</u>
<u>I. Technical Assistance</u>						
A. Long-term						
1. Country Program Manager						
a. Salary & Benefits ³	110	110	110		330	
b. CPM travel	5		5		15	
2. Ass't/Secy	8	8	8		24	
B. Short-term						
15 PM @ \$10K/mo	50	40	50		140	
<u>II. Research Support</u>	50	30	50		130	
<u>III. Training</u>						
A. 2-3 In-country Workshops @ 10-20K	30	20			50	
B. 2-Month Study tour to State CRM programs @ 10K	10				10	
C. 2-Short-term courses (@ 10K ea)	10	10			20	
<u>IV. Regional outreach/Workshop</u>			75		75	
<u>V. Evaluation⁴</u>		15		15	30	
Subtotal	273	238	298	15	824	
50% overhead ⁵	79	62	92	8		
Subtotal	352	300	390	23		
5% inflation	17	15	20	2		
10% contingency	35	30	39	3		
TOTAL	404	345	449	28	1226	

¹ Figures are in units of 000's.

² USAID/Quito has made a commitment to contribute in the range of \$900 - \$1600 to complementary CRM activities in the areas of short-term TA, research, training, and regional outreach. Exact figures will be agreed to in the JPA. We anticipate approximately \$400 contribution from the GOE in both in-kind contributions and on-going activities that will become oriented to CRM as a result of the S&T CRM project.

³ Includes travel to post, housing and education allowances.

⁴ Includes salary, travel and per diem for salary of 1 U.S. expert and 1 host country professional for 3 weeks.

⁵ Overhead included for Items 2 thru 6.

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6. Sri Lankan Pilot Program

a. Objectives

The Sri Lankan CRM pilot program has as its objective to assist the GSL to significantly expand the resource components of their legislatively mandated Coastal Management Plan;^{1/} to enhance the staff expertise of the Coast Conservation Division in managing coastal resources; and to assist the Coast Conservation Division in implementing the CRM plan they prepare, including facilitating other implementing agencies to expand their focus to include coastal resource considerations.

b. Preparation of a Joint Program Agreement

As detailed in the Ecuadorian pilot, the Project Director and the S&T Project Manager will prepare, in cooperation with the GSL, the JPA covering a four-year program containing the elements listed in Section VI. C. 2. This will be supplemented by detailed annual work plans which will guide project implementation. In addition, the following issues of particular relevance in Sri Lanka will be addressed:

- (1) Role and Responsibilities of the Host Country Institution: In Sri Lanka, the lead agency for coastal management is the Coast Conservation Division (CCD), and they would be the cooperating host country institution. Short-term advisors would work directly under the supervision of either the Director of CCD, the Manager of Planning & Development or the Deputy Manager for Planning. Consultants would also work, as appropriate, with the planning and engineering staffs in CCD, especially for training purposes. CCD would provide short-term advisors with office space, secretarial support and in-country transportation.

CCD's estimated budget for activities to produce the coastal management plan over the period 1984-1987 is approximately \$62,608. The precise host country contribution will be specified in the JPA. In addition, one staff member is assigned full-time to development of the CRM plan and two including, the Director of the CCD, will work part-time on this. The bulk of CRM plan development and permit review responsibilities over the next several years will fall to the Planning and Development staff within CCD.

- (2) Selection of a Resident Program Administrator: In light of the very specific legislative mandates under which the CCD is operating and their excellent sense of their requirements to accomplish these mandates, a long-term Country Program Manager is not essential in Sri Lanka. In-country liaison administration should be provided by a host country professional. He/she would be based in the CCD

^{1/}The Coast Conservation Act passed in 1983 requires the Coast Conservation Development (CCD) of the Ministry of Fisheries to prepare and implement by 1986 a CRM plan.

throughout the life of project and would give logistical and administrative support to the pilot program, including bookkeeping, grant reporting, and logistical arrangements for consultants. The host country program administrator would be supervised on a regular basis by the Mission staff member assigned oversight responsibility for the pilot program. The S&T CRM Project Director, would visit Sri Lanka 1-2 times per year in order to provide outside review and evaluation of Sri Lanka's coastal management efforts, and to assist the CCD in identifying short term consultant needs and in locating the appropriate person and institutions to provide the assistance.

(3) Relation to Mission Program

The Mission strongly supports the CCD's coastal management activities. Although no follow-on bilateral activities are planned, a number of recent and upcoming Mission activities complement the S&T pilot program. Under the Development Services and Training Project, the following related activities have been or will be funded:

- \$65,000 has been provided between 1982-1984 to bring in James Dobbin Associates to assist CCD in evaluating their existing data base and to provide assistance in framing the steps needed to develop and implement their Coastal Management Planning;
- \$67,000 was allocated to a recently held workshop on the development of environmental assessment procedures;
- \$75,000-\$100,000 will be allocated to a follow-up workshop in 1984 on implementation of environmental assessment procedures;
- \$5,000 has been provided to bring in a consultant to do a needs assessment for an Environmental Information Center under the Council for Environmental Assessment; and
- \$75,000 will be requested for equipment and technical assistance to establish the center.

An additional Mission contribution would be provided in the form of a staff member designated by the Mission Director to devote a substantial amount of time to overseeing this project.

c. Elements of a Sri Lankan Project

(1) Short-term Technical Assistance

The following short-term consultancy needs have been identified by the GSL and requested under the S&T CRM project. Specific decisions as to which to fund will be made in the JPA.

- (a) Institutional Management Consultant: to provide assistance in the preparation of permit procedures; to assist in the review of

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permit operations and to recommend corrective actions; to provide direction and review on development of the Coastal Management Plan (CMP).

(b) Coastal Information and Planning Consultant: to provide assistance in organizing and presenting existing information; to assess and utilize aerial survey data; to help format reef inventory and other basic resource data; to provide direction and review on development of CMP.

(d) Legal Analyst: to provide recommendations regarding possible amendments to the Coast Conservation Act and the implementing regulations.

(e) Coral Reef Specialist: to assist in the design of a survey of the location and quality of the off-shore reefs and to train local staff to conduct the survey;

(f) Information Systems Analyst: to assist CCD in organizing existing information; to help set up an information storage and retrieval system based on existing facilities, but including the possibility of eventual automation.

(2) Research

The following research topics have been identified by the GSL as priorities for completion and implementation of their Coastal Management Plan. The research will be done by Sri Lankan universities and professionals. Decisions will be made during the negotiation of the JPA which of these studies can be funded by the AID CRM program.

(a) Coral Reef Studies: survey of the location and quality of coral reefs, possibly combined with a similar survey of sea grass beds;

(b) Mangrove Study: An inventory of existing mangroves and an assessment of their productivity, especially for fisheries purposes;

(c) Coastal Population Densities: determining the population within the 300 meter landward coastal strip that is under the CCD purview;

(d) Land Ownership: development of land ownership records along the extensively privately owned southwest and west coasts;

(e) Identification of Alternative Sand Sources: identification of alternative sources of sand, both inland and offshore as a preliminary to controlling present destructive sand mining practices;

(f) Identification of Alternative Lime Sources: identification of alternative sources to coral reefs, which are now the main source

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of materials burned in kilns along the southwest coast to obtain building materials; this study would be a preliminary to developing a program to provide alternative employment to those currently destroying the coral reefs;

(g) Water Pollution: identification of sources of water pollution through field investigation;

(3) Training

The following training needs were discussed by the AID/NOAA team with the CCD and should be evaluated for support when the JPA is prepared:

(a) Environmental Assessments (EA): as of January 1, 1984, all agencies will be required to do EAs for all development activities. CCD would like to support this requirement by improving their own capability to do EAs on activities in their jurisdiction;

(b) Coral Reef Survey: training local marine biologists, including graduate students, to identify, survey, and map coral reefs;

(c) Administration of CRM Plans in General and Permits in Particular: study tour(s) for CCD staff to visit the U.S. and review how CRM plans are implemented and administered and how permits are handled by the coastal management programs in one or more coastal states;

(d) Local Government Training: training of local government agents who will act on CCD's behalf in conducting permit review activities once the CMP is implemented. These agents need training in permit review procedures and a basic appreciation of coastal ecosystem dynamics;

(e) International and Regional Conferences, Seminars, and Workshops: both mid and senior-level staff in CCD and other relevant agencies would benefit from attendance at relevant conferences, which can give them a wider perspective on different approaches to coastal management.

(4) Regional Outreach

CCD will engage in a number of activities designed to transfer the Sri Lankan experience to other LDCs. For example:

(a) the CCD would host 2-3 observers a year for a period of approximately one month; observers would work alongside CCD staff in the development and implementation of a CMP. In this case observers' travel and per diem would be paid by their own governments or by AID Missions. The CCD would give them office space and transportation;

- (b) the CCD would send out 1-2 staff members a year for short periods to work with other nations in developing interest in and approaches to coastal management. CCD travel would be supported by either the S&T pilot program or by USAID/Colombo;
- (c) the CCD will circulate the CMP and other documents related to their coastal management activities to interested nations; the S&T Project Director can assist in dissemination of these documents;
- (d) at the end of the plan development phase (i.e., approximately year two of the Sri Lanka pilot program), the CCD would cooperate with AID in hosting a regional or international seminar/ workshop on CRM with special focus on the Sri Lankan experience. This would be funded by the AID pilot program;
- (e) CCD will cooperate with a consultant hired by the S&T CRM project to document the Sri Lankan experience and produce an educational document for widespread distribution among LDCs. This publication will be supported by the AID pilot program, and will be a major objective of the S&T CRM Project, since it will serve as a documentary tool to inspire and guide other LDCs in developing an administrative procedure for managing their coastal zones.

(5) Documentation of Sri Lankan Experience

Since the GSL is a leader among LDCs in CRM policy and program development, one of the objectives of the AID CRM project is to document the history of their experience for use in stimulating CRM program development in other LDCs. A professional writer will be supported by the CRM project to produce two educational documents for wide distribution. The first will be prepared at the beginning of the Sri Lankan pilot program and will be used in CRM project regional workshops and networking activities. This document will chronicle the steps by which Sri Lanka came to pass national CRM legislation in 1983 and to give a single agency (the Coast Conservation Division, CCD, Ministry of Fisheries) the legislative mandate to prepare and administer a coastal resources management plan (CRMP).

A second document will be prepared at the end of the Sri Lankan pilot program and will describe the process of preparation and implementation of the CRM plan that occurred during the AID CRM pilot. This document will also be widely distributed, used in regional workshops and networking activities, and in publicizing CRM to additional Missions and LDCs.

TABLE 2

DRAFT SRI LANKAN PILOT PROGRAM BUDGET¹

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>TOTAL (S&T)</u>	<u>MISSION & GSL²</u>
<u>I. Technical Assistance</u>							
<u>A. Pilot Program administrator</u>	20	20	20	20		80	
<u>B. Short Term Technical Assistance, 6-7 PM @ \$10K</u>	15	15	15	20		65	
<u>II. Research Support</u>	30	20				50	
<u>III. Training</u>							
a) In-country Workshop				20		20	
b) 1-month study tour to U.S. to State CRM programs		10				10	
c) 3-In-country short-term training courses		10	10	10		30	
<u>IV. Evaluation³</u>			15		15	30	
Subtotal	65	75	60	70	15	285	
Overhead ⁴ (50%)	23	28	20	25	8	104	
Subtotal	88	103	80	95	23		
5% inflation	5	5	4	5	1	20	
10% contingency	9	10	8	10	2	39	
TOTAL	102	118	92	110	26	\$448	

¹ Figures are in units of 000's. S&T anticipates that more than \$448 will actually be spent on CRM activities in Sri Lanka when Mission and host country funds and in-kind contributions for complementary activities are included.

² Mission contribution is estimated at \$125, plus staff time to oversee the pilot program and possible support for study tours. GOSL contribution is estimated at \$62,608 for CRM plan development, plus the time of one full-time and two part-time staff members of the CCD, plus office space, secretarial support, and in-country travel for the pilot program administrator and short term experts.

³ Includes salary, travel and per diem for one U.S. expert and salary of one host country professional for three weeks.

⁴ Overhead included on for items except Pilot Program administrator.

VII. PROJECT MANAGEMENT

The Project Director will be responsible for overall direction and management of the CRM project. As most of the specific activities are still to be determined for each pilot program, the following framework for decision-making and AID concurrence will be used to permit initiation and implementation of pilot programs.

A. Annual Workplans and Budgets

1. CRM Project

Using the schedule of key events (Part VI, Section B), and the Draft Budget, the Project Director will prepare and submit more precise annual projected workplans and budgets for the program as a whole to the AID Project Manager which, when approved, will provide the basis for the next 12 months of work. The first will be prepared within two months of the start of the program and every 12 months thereafter.

2. Pilot Programs

Using the Joint Program Agreement, each Country Program Manager will prepare an annual work plan and budget for submission to the Project Director who will incorporate it in the Project work plan and budget. When approved by AID/W, it will become the basis for initiating country activities for the forthcoming year. The first will be prepared within two months of the arrival of the CPM in the country and every 12 months thereafter. If Mission or host country funds are involved, the procedures for obtaining them as worked out in the JPA will be followed, but they will be reported on and included in the annual workplan.

B. Annual Management Reviews of Country Programs

The Project Director will conduct annual in-country reviews of each pilot, monitoring its progress, in conjunction with the AID Project Manager and will prepare reports on progress, issues, and problems.

C. Financial Management

Responsibility for expenditure of project funds will be carried by the Project Director, who will be responsible for salaries and expenses of the Country Program Managers, short-term advisors, administration of research grants to host country institutions, training programs, and other proposed activities. Permission to delegate any of that responsibility to Country Program Managers or others must be obtained from AID/S&T/FNR.

D. Regional Bureau and Mission Responsibilities

The success of the pilot programs will depend upon significant involvement of the Missions in supporting the Country Program Manager with funds and with political support. It shall be understood that the

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role of the CPM requires backing by the Mission in order to be effective. Mission funds that are obligated to support CRM activities complementary to pilot program activities will not be transferred to S&T's budget, but can be transferred directly to the contractor/grantee under the Mission's project number.

Missions should be closely enough involved in the pilot program in order to make the contacts in appropriate agencies and to become familiar with the issues sufficiently to facilitate Missions to design follow-on activities in CRM.

Regional Bureaus will be substantively involved in a number of key points of project and pilot program implementation, including: preparation of the JPA, review of the annual workplans, and review of the research and training proposals.

E. AID Project Management

1. S&T/FNR

S&T, the Office of Forestry, Environment, and Natural Resources will assign a full-time Project Manager to oversee the CRM project. That oversight will be maintained through:

- (a) approval of hiring of full-time project personnel;
- (b) concurrence in selection of short-term advisors;
- (c) approval of annual project work plans and budgets (including pilot program activities);
- (d) approval of Joint Program Agreements;
- (e) concurrence on specific research grants;
- (f) approval of participants designated for short-term and for long-term training with S&T pilot program funds.

F. Evaluation Plan

1. Overall Project Evaluation

Evaluations of the overall CRM project will be conducted at mid-term (FY 87) and at the end of the project (FY 90). These evaluations will be conducted by an independent team of qualified experts not directly involved in the project. Their examination will evaluate progress toward the stated project goal/purpose and the timeliness and adequacy of inputs and outputs.

These evaluations will be based upon a scope of work prepared by the S&T/FNR Project Manager in consultation with the Project Director and Mission Liaison officer. Chapter 12 - Project Evaluation - of AID Handbook 3 will guide the evaluation team. Particular attention will be given to collecting data relevant to AID's Project Evaluation Summary (PES) Part II.



At the end of each evaluation, a team member will prepare a draft evaluation report to be circulated to the S&T/FNR Project Manager, Project Director, and the Mission Liaison officer for review and comments before a final Project Evaluation Summary (PES) is prepared by the AID Project Manager.

Funding for the two overall project evaluations is contained in the CRM Project Budget, Section JV. 3.

2. Pilot Program Evaluations

In addition to the overall CRM Project evaluations, each Pilot Program will receive both a mid-term and a final evaluation. The AID Project Manager, Project Director and Mission Liaison officer will jointly agree to a scope-of-work for these evaluations and will identify qualified experts not directly involved in the Pilot Program to conduct the evaluations. Each evaluation team should consist of one U.S. expert and one host country professional.

The Project Director will oversee preparation of the draft and final Pilot Program evaluation reports including seeking and incorporating as appropriate comments and recommendations from AID/W and/or AID Missions.

Funding for the Pilot Program evaluations are contained in the individual Pilot Program budgets, Sections VI, C, 5e and 6d.

G. Reporting Responsibilities

Managerial Reporting

The Project Director will be responsible to AID Project Manager for the following reports: (a) progress reports (semi-annually); (b) expenditure reports (monthly); (c) activity reports (every 2 weeks). The PIO/T should indicate what to include in these reports and their format. The Project Director is also responsible for consulting the AID project manager and obtaining his/her approval in those areas stipulated in the PP, including: approval of requests for short-term TA and identification, and selection of experts to carry it out; approval of research grants to host country institutions; approval of candidates for short-term training courses and of the courses identified; and approval of the timing, organization, and content of regional outreach activities.

The Country Program Manager will be responsible to the Project Director and will report to him/her on a monthly basis through progress reports that summarize activities of the foregoing month and goals for the upcoming month. Copies of these reports will also be given to the S&T Project Manager and to the Mission liaison officer. The Country Program Manager will keep the Missions informed of his/her work to a

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degree appropriate with the Mission's level of interest and should schedule regular presentations for Mission staff describing the program's progress. The Country Program Manager will be subject to the Mission's general guidance in terms of working relations with the host country institution.

Technical Reporting

The Country Program Manager will be responsible for preparing on a quarterly basis an historical write-up of the experiences that he/she has observed in terms of the host country's evolving interest and program in CRM. While the reports will be based on the monthly progress reports that summarize the pilot program's activities, they will add an analytical element that evaluates what activities have been beneficial and what kinds of problems a CRM pilot program encounters. These reports will be used in some form in the networking and regional outreach activities and may be used as the basis for a report or reports written at the end of the CRM project discussing in general the prospects for CRM in developing countries.

ANNEX C

GLOSSARY OF TERMS

1. **CZM:** the acronym for coastal zone management, the term developed in the U.S. by the federal and state programs responsible for planning development along the coast.
2. **CRM:** the acronym for coastal resource management, a term developed to emphasize resources, de-emphasize the regulation implied by the term "zone," and designates a concept broader than that characterized by the U.S. programs.
3. **Coastal Resources Management (CRM) project:** The S&T project consisting of multiple pilot programs in individual countries, with a LOP of FY 84-90 and a total budget ranging from \$4.4 million.
4. **CRM Pilot Program:** the individual project sited in an LDC, 3-4 years in duration, consisting of research, training, shortand long-term technical assistance, designed to foster improved coastal resource management in the host country, and with a budget ranging from \$500,000 - \$1,500,000.
5. **Joint Program Agreement:** the basic document that will guide the pilot program in the host country. It will describe pilot program goals and objectives; designate the contributions of host country, Mission, and S&T; describe a research and training agenda, budget, and implementation schedule; and a schedule of events for the LOP.
6. **S&T Project Manager:** the S&T/FNR staff member responsible for managing the CRM contract, working with the contractor/grantee's Project Director.
7. **Project Director:** The contractor/grantee's representative who will provide day to day project management of the overall S&T CRM project. He/she will backstop the Country Program Managers, provide liaison among pilot programs, and disseminate information about CRM to other interested AID LDCs.
8. **Country Program Manager (CPM):** the long-term U.S. advisor, specialized in CRM and marine science, who will be based in an LDC and who will administer a pilot program. The Manager will work through host country counterparts and will foster the development of a permanent institutional arrangement responsible for coastal development activities.
9. **Mission liaison officer:** the Mission staff member responsible for oversight of the S&T pilot program, who works with the Country Program Manager on a weekly basis, providing Mission input, assistance, and guidance as the pilot program evolves.
10. **Regional Outreach:** seminars, workshops, and conferences involving the Country Program Managers from CRM pilot programs and other appropriate LDC officials in resource management, planning, and environmental agencies. These activities will be designed to disseminate information about the value and methods of CRM, using both U.S. and LDC examples.

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