

PD-ABE-976  
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# International Coastal Resources Management Project

The University of Rhode Island

Funding provided by the Office of Forestry, Environment and Natural Resources,  
Bureau of Science and Technology, U.S. Agency for International Development

The four major goals of the AID/URI Coastal Resources Management Project (CRMP) are: 1) to apply, as appropriate, existing experience in coastal resources management to developing countries; 2) to assist three developing nations in the design and implementation of integrated coastal resources management programs; 3) to advance the state-of-the-art of coastal resources management in developing countries; and 4) to build URI's capability to assist developing nations with coastal resources management.

The CRMP will work with the cooperating pilot countries to:

- develop procedures for the assessment of the impacts of coastal development proposals
- develop institutional and technical solutions for resource use conflicts
- support research to better understand the issues that affect the condition and use of coastal ecosystems
- improve the capabilities of in-country professional staff to plan for and manage coastal development

The countries selected for pilot projects are Ecuador, Sri Lanka and, tentatively, Thailand.

The AID/URI Coastal Resources Management Project is funded by the Office of Forestry, Environment and Natural Resources, Bureau of Science and Technology, U.S. Agency for International Development through a Cooperative Agreement with the International Center for Marine Resource Development, at The University of Rhode Island.

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Cooperative Agreement LAC-5518-A-00-5054-00

PDABE 976

SRI LANKA PILOT PROJECT

SECOND YEAR WORK PLAN

January 1, 1987 - December 31, 1987

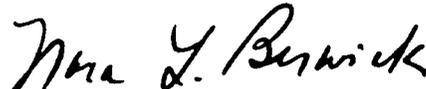
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SRI LANKA PILOT PROJECT COASTAL RESOURCES MANAGEMENT  
SECOND YEAR WORK PLAN

The annual work plan and budget are hereby approved.



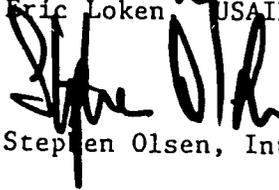
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February 17, 1987  
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The CCD has adopted an incremental, problem-oriented approach to the task of developing the national Coastal Zone Management Plan. The October 1986 Plan is viewed as a first generation document that focusses on readily perceived coastal problems upon which there is a broad national consensus and in regard to which immediate management action is required. The Plan is directed at the following priority issues :

- coastal erosion
- loss and degradation of natural coastal habitats
- loss and degradation of archaeological, historic, cultural monuments and sites and recreational and scenic areas.

The formal review process for the Plan is expected to be completed by the first half of 1987. The Plan will become formally operational when it has been approved by the Cabinet.

### 3. ELEMENTS OF THE SECOND YEAR WORK PLAN

The focus of Year Two will be to follow up on the new initiatives included in the CZM Plan. The major components of the Year Two Work Plan are as follows:

- (1) To develop a detailed devolution strategy, the objective of which is to decentralize the permitting system among 14 coastal districts. The devolution scheme will include provisions for district level planning that will enable the broad management framework set forth by the CZM Plan and the Coastal Erosion Management Plan to be tailored to local

needs. Implementation at the local level will build upon the three years of experience in implementing a permit programme for construction, extractive activities and modifications within the coastal zone that have been carried out by CCD staff based in Colombo since 1983.

- (2) To broaden the programme's capacity for research and policy development. Mechanisms for involving the expertise available within Sri Lanka's Universities and Non-Governmental Organizations (NGOO) will be explored in order to bring such expertise to bear on immediate management priorities and to build the institutional capability to assist in the resolution of such issues.
- (3) To begin follow-up on the numerous research and planning priorities for coastal habitats identified through the workshop on the Management of Coastal Habitats in Sri Lanka held in Colombo, May 12-15, 1986.
- (4) To begin implementation of a public outreach programme directed at increasing awareness of coastal problems and the need for integrated management. The target groups for such a programme have been identified and the focus for the programme agreed to.
- (5) To continue training activities for CCD staff and to collaborate with the University community to develop a degree programme in natural resources management, including CRM.

The specific activities that will be supported with AID/URI funding are summarized in Section 4 of this Work Plan and activities supported by GSL are set forth in Section 5.

4. CRM PROJECT ASSISTANCE FUNDED THROUGH AID/URI CONTRIBUTION

4.1 In-Country Project Administration

a) Background: The Cooperative Agreement between URI and AID calls for an In-Country Project Administrator to provide for the day to day management of this pilot project. This person is based in the CCD and works under the supervision of the CCD Director with periodic monitoring by the AID Project Liaison Officer. The Project Administrator is supported by Secretarial staff.

b) Objectives:

- i) To provide for the management of the AID/URI Coastal Resources Management Project in Sri Lanka as described in the Job Description.
- ii) To provide logistical and administrative support to the Project including book-keeping, grant reporting, and logistical arrangements for consultants.
- iii) To contribute to the development of CRM policy and administrative mechanisms for the effective implementation of Sri Lanka's Coastal Programme.

c) Contractor: URI has contracted with Bulathsinghalage Wilfred Perera to serve as the In-Country Project Administrator.

d) Products:

- i) Periodic reports as described in the In-Country Administrator's Job Description including monthly expenditure reports, bi-monthly activity reports and semi-annual progress reports;
- ii) Materials for inclusion in the Coastal Resources Management Project in the Administrator's area of expertise;
- iii) Fiscal expenditure records and statements necessary for maintaining proper accounts for the Project.

#### 4.2 Assistance in the Production of the National CZM Plan and Supporting Documents

Background: During Year One the CZM Plan was drafted in its entirety. The formal review process began in October 1986 with submission of the document to Coast Conservation Advisory Council for its review and approval. By the end of Year One a revised version had been submitted to the Minister of Fisheries and the 60 day public review period is expected to commence in the first quarter of Year Two. When modifications where necessary have been made, the Plan will return to the Minister of Fisheries for his approval and will then proceed to the Cabinet of Ministers for final approval. The Plan then becomes operational.

Objectives:

- 1) To assist in making final adjustments and corrections to the Plan as it proceeds through the formal review process.
- 2) To assist in covering the production and distribution costs of interim drafts and the final version.
- 3) To print and distribute the maps and final report on the extent and distribution of coastal habitats completed during Year One.
- 4) To print and distribute the final session of the synthesis of available information on Sri Lanka's natural habitats produced during Year One.

Work Task 1: Final Editing of the CZM Plan.

AID/URI Project staff at the University of Rhode Island and Dr. Kem Lowry (University of Hawaii) will continue to assist the CCD in refining the CZM Plan. This work will occur during visits to Sri Lanka and by reviewing comments and suggested changes mailed by the In-Country Project Administrator. AID/URI funds and secretarial facilities shall continue to be used to facilitate typing of revisions and producing interim drafts in a timely manner. The Project will also assist in covering the costs of translating the Plan into Sinhala and Tamil.

Contractors: Dr. Kem Lowry will assist in the document refinement process (see 4.3).

Local translators shall be selected by the In-Country Project Administrator.

Products:

1. Final, formally approved version of the CZM Plan in English, Sinhala and Tamil.

Work Task 2: Printing and Distribution of Documents Supporting the CZM Plan

During Year One a major effort has been made to develop management findings and policies for natural coastal habitats. University experts were contracted to synthesize the available information on coastal habitats and identify management options. A draft of the resulting report (Samarakoon, J.I. and L.Pinto, 1986) was distributed to all participants of the highly successful workshop held on this topic in Colombo May 12-15, 1986. The information and ideas developed through the workshop are being incorporated into the final version of the synthesis report that will be completed, printed and distributed during Year Two. A second major task during Year One undertaken in preparation for the Coastal Habitats Workshop was the mapping of habitats from aerial photography available through the Sri Lanka Survey Department. A draft report and maps were available at the workshop and have subsequently been revised. The Workshop Report was printed and distributed during Year One.

Contractors: The In-Country Project Administrator shall make arrangements for final production and printing of the two documents.

Products:

1. Final version of the coastal habitats mapping project report printed and distributed.
2. Final version of the synthesis report on coastal habitats printed and distributed.

4.3 Short-term Technical Assistance

Background: Short-term technical assistance during Year Two will permit Dr. Kem Lowry to continue to participate in the drafting of the CZM Plan. Dr. Kem Lowry has been working with the CCD since 1982 to help them with their planning and policy formulation responsibilities. The Director of the CCD requested that Dr. Lowry continue to serve as an advisor as the Plan approaches completion. This has provided continuity between past and continuing planning efforts. Short-term technical assistance will also be provided to help in the planning, and possibly the initial implementation of the decentralization scheme. Dr. Timothy Hennessey has been selected to assist in the formulation of the decentralization scheme by bringing to bear experience and techniques developed through state programs for coastal management in the U.S. and the administration of rural development schemes in the developing world.

Assistance will also be provided to the CCD in selecting and designing programs to be placed on the IBM PC purchased during Year One that will facilitate the analysis, storage and retrieval of information for the expanded permitting process.

Contractors:

1. Final adjustments to the national CZM Plan; Dr. Kem Lowry.
2. Assistance in the design of the devolution scheme: Dr. Tim Hennessey.
3. Assistance in computerized information management: To be selected.

Products:

See 4.2 and 4.4 for products associated with the work of Dr. Lowry and Dr. Hennessey.

The contractor (s) selected to develop personal computer (PC) programs shall identify means for increasing the efficiency of the permit and management functions of the CCD, get selected programs on-line and train CCD personnel to maintain such systems.

4.4 Implementation of the CZM Plan

Background: The CCD has been implementing a permit program for construction, extractive activities and physical modifications within the coastal zone since 1983. The CZM Plan established a set-back line of variable width that will prohibit non-water dependent forms of construction in areas susceptible to erosion or otherwise inappropriate.

The CZM Plan also sets forth a framework for protecting important habitats and cultural sites. Worldwide experience in implementing similar regulatory programs strongly suggests that permitting and monitoring activities are most likely to be supported by the people affected and therefore effectively implemented, if they are administered by officials with local knowledge and tailored to local needs. The Minister of Fisheries has accepted in principle, the desirability of decentralizing the permit programme and the proposal has been noted by the Cabinet.

Objectives:

To decentralize the resource management programme among the Districts to permit more local involvement in the management effort. These objectives are to be reached in two stages.

- i) Decentralizing the permitting functions among selected Districts during Year Two.
- ii) Formulating plans and making necessary administrative and financial arrangements for decentralizing other functions including district level planning capability so that Districts can take over these functions during Year Three (1988).

Work Task 1: Initial Steps in Decentralization

The CCD will, in consultation with the relevant district organizations, work out details regarding the regulatory functions to be delegated by CCD to the District the administrative mechanisms and resource and support service required. In Year Two it is anticipated that several Districts will assume responsibility for aspects of the regulatory process of permitting.

In Year Two the CCD also expects to finalize proposals for decentralization of planning, implementation and evaluation of coastal resources management functions among the Districts. This will require considerable effort in planning including consultation with the District Administration and the relevant District and National Government and Non Governmental Agencies and the political authorities. It will also require consultation with the Treasury, the preparation of requests for inclusion of allocations in the 1988 government budget and approval by Cabinet.

The initial proposals and consultations with district administrative agencies will occur at the Government Agents' Conference in February-March 1987. Detailed proposals will be subsequently formulated to include demarcation of functions and responsibilities, inter-agency coordination and consultation at the district and national level. An assessment of resources must also be made regarding staff,

accommodation, secretarial, communication, travel and financial allocations and sources of financing necessary to implement a decentralized program.

This work will be initiated by the CCD Director with the support of the In-Country Project Administrator. Expatriate assistance will also be provided for this effort (see 4.3).

Contractors: This work will be implemented by the CCD and the Project Administrator with technical assistance from Dr. Tim Hennessey (see 4.3).

Products:

1. A report detailing the devolution scheme as it evolves from the extensive consultative process.
  2. Assuming continuing GSL support for the devolution strategy and initial implementation of the district level CRM permitting is expected in two Districts during the second half of 1987.
- 4.5 Development of a CCD Technical Advisory Committee and an University Based Coastal Resources Unit.

Background: An effective coastal management program must have access to the best available technical expertise. During the past several years the CCD has been highly successful in identifying and contracting with specialized experts the majority of which are associated with the Nation's Universities. As the scope of the program increases from erosion management to management of natural habitats, use conflicts and the impact of activities outside the

coastal zone that directly influence the coastal environment, (for example the impacts of dams,) have to be evaluated. It is therefore necessary to broaden the base of technical expertise available to the Program.

Objectives:

- i) To initiate regular meetings to discuss the technical and policy implications of resources management issues of concern in the CCD.
- ii) To create a Technical Advisory Committee that would assist the CCD in setting research priorities and in monitoring and evaluating contracted research.
- iii) To create a Coastal Resources Unit (CRU) at the University of Kelaniya that will oversee applied research activities on the CCD's behalf and provide a focal point for such activities that will strengthen the development of a Resources Management Master's Degree Program at that University.

Work Task 1: Formulation of Technical Advisory Committee

The CCD Director will invite individuals recognized for their knowledge of topics of relevance to the CCD's planning and regulatory functions to meet periodically to advise the CCD. This shall begin as an informal activity but the objective is to formalize a relationship with an inter-disciplinary group that can provide the CCD with technical advice and a forum for the discussion of important issues raised by the management of the Nation's coastal resources.

Work Task 2: Establishment of a Coastal Resources Unit (CRU) at Kelaniya University

A closely related initiative will be to establish

and provide seminal funding for a Coastal Resources Unit at Kelaniya University. The CRU will be led by a Coordinator and provided with modest funding for secretarial services. The function of the CRU will be to assume administrative responsibility for overseeing the applied research activities undertaken for the coastal program. The CRU will relieve the CCD's heavily taxed staff by overseeing the program's technical work undertaken by researchers and will over the long term increase the institutional capability available to CCD for conducting applied research.

A major additional benefit will be the creation of a focal point for applied CRM research that will strengthen the University of Kelaniya's program in Resources Management. It is expected that the activities undertaken by the CRU will provide opportunities for student involvement and valuable exposure to the realities of Coastal Resource Management. The CRU will, over the long term, provide a pool of manpower with experience in resources management that can be drawn upon by a range of Sri Lankan Governmental Agencies.

An important feature of CRU will be that it will involve researchers and students from the University community as a whole, Governmental Agencies and Private Organizations. The CRU Coordinator will report to the CCD Director and provide a secretarial function to the Technical Advisory Committee.

Contractors: Members of the Technical Advisory Committee and the CRU Coordinator shall be selected by the CCD Director. The AID/URI Project Director shall concur in the selection of the CRU Coordinator.

Products:

1. An ongoing Technical Advisory Committee.
2. Establishment and staffing of the CRU at Kelaniya University.
3. Oversight of activities undertaken in 1987 (see Chapter 5) by the CRU Coordinator.

4.6 Training

Background: A key element of an effective coastal resources management program is sensitizing the public to the socio-economic importance of these resources, their fragility and their susceptibility to poorly planned development activities. An effective long-term strategy consists of a well planned integration of appropriate education courses into the country's schools and universities curricula. As a first step towards achieving this goal an assessment of the present coastal-related curricula in the nation's public school and university systems was completed during Year One. A second activity carried out during Year One was a preliminary assessment of training needs related to coastal resources management at the level of the District Administrators who will play a key role in project implementation in Sri Lanka. This assessment will serve as a basis for the design of the in-country training workshops.

During the first phase of the project CCD staff training included attendance of two senior CCD staff officers at the Baltimore Coastal Zone 1985 Conference and training at URI. During the summer of 1986, CCD's Deputy Manager for Planning attended a 2½ week short course on Coastal Parks sponsored by the U.S. Parks Service.

Objectives:

- i) To implement the training element in CRM for new recruits to the Sri Lanka Administrative Service, provided by the Sri Lanka Institute of Development Administration (SLIDA).
- ii) To provide for post graduate training of a CCD Assistant Manager in Planning at a U.S. University.
- iii) To fund attendance of CCD senior staff and the In-Country Project Administrator at the Policy Roundtable sponsored by the AID/URI CRM Project and CZM 1987 Conference in Seattle Washington State U.S.A.
- iv) To assist the University of Kelaniya in launching a Master's Program in Resources Management.

Work Task 1: The outline for the Sri Lanka Institute of Development Administration (SLIDA) training element on Coastal Resources Management will be incorporated into the training curriculum. SLIDA is enthusiastic about this new dimension to their training programme. Post graduate degree training for a CCD Planning Officer at an American university is expected to commence in the fall semester (September 1987).

Work Task 2: To continue development of the AID/URI Project Roundtable as a mechanism for exchange of experience among CRM practitioners in LDC's. The first Roundtable is scheduled for May 1987 immediately before the Coastal Zone 1987 Conference in Seattle, Washington. Participants from the three pilot countries of the AID/URI CRM Project and representatives from the ASEAN CRM Project will attend. The ~~focus~~ focus of the first workshop is on the problem of transition from the planning to implementation phases of CRM programs. The CCD Director has been invited to chair an International Session Developing Country programs at Coastal Zone 1987. A special session is being devoted to the Sri Lankan CRM experience.

Work Task 3: To formulate a program in Resources Management at the University of Kelaniya. The URI Project staff have consulted with the University staff during the second year. Financial assistance to this effect will be supplemented by the Training Development element of the domestic (U.S.) component of the project.

Products:

1. Inclusion of a CRM component in SLIDA training for new recruits and refresher courses.
2. Initiation of post graduate degree training for a CCD Planning Officer.
3. Participation of CCD senior staff and the In-Country Project Administrator at the CRM Roundtable and CZM, 1987 Conference.
4. A planning workshop for the design of a program in Resources Management at Kelaniya University.

#### 4.7 Public Education and Outreach in Sri Lanka.

Background: A major impediment for the successful outcome of the newly proposed Coastal Zone Management Plan is inadequate public awareness of the Plan's purpose, objectives, and policies. Sri Lanka benefits from one of the most advanced Coastal Zone Management programs in the developing world. However, outside of the immediate Colombo area, and the existing network of inter-agency institutions which share coastal concerns, public awareness of the CCD's mandate, and the purpose of the October 1986 Coastal Zone Management Plan is lacking. During Year One a survey of coastal resources related curricula in Sri Lanka's public schools and the relevant efforts of governmental agencies and NGOO was completed. The final report and recommendations, however, were not available before the process of formulating the details of the Year Two Work Plan.

#### Objectives:

- i) Increase public awareness for the ideas behind the adoption of comprehensive management approaches to coastal resources.
- ii) Promote recognition of the existence and mandate of the CCD.
- iii) Encourage public acceptance of the Coastal Zone Management Plan.

#### Work Tasks: Development of a Public Education and Outreach Strategy

The report and recommendations of an initial proposal for the design of a public education and outreach strategy will be carefully reviewed and discussed. A workplan for 1987 will be formulated that specifies the priority topics and audiences

and selects the manner by which they will be reached.

Since all participants in the project agree that an effective public education and outreach program is a priority, substantial funds have been earmarked for this activity during Year Two.

Contractors: To be selected.

Products:

1. A detailed strategy document for 1987.
2. Implementation of the strategy.

5. ELEMENTS TO BE FUNDED BY GSL.

The GSL has provided an allocation for annual expenditure in support of the CZMP. The budget allocations for 1987 will be approximately \$ 70,000.

5.1 In-Country Project Administration.

GSL will continue to support the administration of the AID/URI CRM project through provision of office space, transport, secretarial services and counterpart staff services. The Director CCD will make time available to take direct responsibility for Project Administration on behalf of GSL and will supervise the work of the In-Country Project Administrator on behalf of the URI Project Director. The estimated value of this in-kind contribution is around \$ 9,000.

5.2 Production of the CZMP

The Sri Lanka Government Printing Office will typeset, print and bind the final approved version of the CZMP.

### 5.3 Research in Support of the CZMP

#### Background:

During Year One a variety of research activities were undertaken to provide information required for the preparation of the CZMP and to meet priority needs of the CCD. These are summarized in the annual evaluation report. These research activities were all supported by GSL. AID/URI funding for associated technical activities during Year One were directed at preparing information for the Coastal Habitats Workshop. The Workshop identified information and research needs for management purposes for six categories of habitats. The CZM Plan recommends several other planning and research tasks that need to be undertaken. Funds are unfortunately sufficient to undertake only a small component of this research and planning agenda. In addition, certain studies that were not undertaken last year and other studies that are on-going will also be continued with GSL funding. Research activities during Year Two funded by GSL are outlined in the following work tasks:

#### Work Task 1: Preliminary Study of Acquisition and/or Vesting of Coastal Land

The effects of implementing set-backs and other regulatory measures will reduce the value of privately owned blocks of land or render them valueless for development purposes. There are also State owned coastal land that are not effectively utilized by State agencies that presently own them. The CZM Plan has recommended that provision be made in the Coast Conservation Act to enable the Director to acquire such lands and/or the vesting of State owned

lands in the Director Coast Conservation to facilitate better management of such lands.

Information on the location and precise extent of lands that should be acquired or vested is not available. The preliminary study will identify the location, extents and ownership of private held lands, as well as State lands and give reasons for such acquisition and/or vesting.

Contractor: To be identified.

Work Task 2: Delineation of the Boundary between State and Private Lands in the Negombo Coast Project Scheme Area

A major beach redevelopment scheme in the area between the Negombo lagoon mouth and the mouth of the Maha Oya river is planned for implementation in 1987/88. This is consistent with the recommendations of the Coast Erosion Management Plan (CEMP). A major element of this project is the reclamation of 8 kilometers of beach upto approximately 30 meters width by sand replenishment. In order to avoid persons claiming rights to this land, it is necessary to mark the boundary between the foreshore (which is State property) and private property along the beach front.

Contractor: Survey Department.

Work Task 3: Survey on Historical Coastline Changes (continued from 1986).

Considerable reaches of the coastline are believed to have undergone radical changes due primarily to erosion. A scientific analysis of existing maps, air photographs

and satellite imagery will be undertaken to assess the extent and nature of such changes over time and gain a better understanding of coastal dynamics. The survey will also be useful to up-date the Coastal Erosion Management Plan and to obtain information on erosion and accretion rates for use in setting setbacks for future construction activities. The survey in the Crow Island (Kelani ganga estuary) area has been completed and report submitted in 1986. Surveys in Kalu ganga river mouth area and Hikkaduwa area are nearing completion. In 1987 other areas selected on a priority basis will be studied.

Contractor: Prof. C.M.Madduma Banda,  
Professor of Geography, University of Peradeniya has been commissioned to carry out the study. The study will be carried out by a team of 10 headed by Prof. Madduma Banda.

Work Task 4: Study of Sediment Transport in the Kalani Ganga.

There has been a considerable volume of sand mining in the down stream area of the Kelani ganga. The area to the north of the river mouth has been subject to progressive erosion and this has been attributed to the inadequate supply of sand being provided by the littoral drift. In view of this the decision was made to stop all mining within the coastal zone of the Kelani ganga estuary and to conduct a sediment transport study to determine the sand budget. This is expected to be a 3-4 years study.

Contractor: Irrigation Department.

Work Task 5: 'Preliminary Assessment of Problems Associated with Access to Shore Front (carried over from 1986).

Problems regarding access to the shorefront have surface in some areas of high intensity use. The precise dimensions of the use conflicts in these areas are not known. Access problems, if any, must be identified and action taken to resolve them.

Contractor: To be determined

Work Task 6: Special Area Management Plan (SAMP) for Negombo Lagoon

The Critical Habitats Workshop recommended that a classification scheme for estuaries be based upon existing and potential patterns of use and to identify those estuaries that require priority attention because they are pristine as well as those that are heavily stressed but can be improved by management measures. Special area management plans are to be prepared for these estuaries. SAMPs are detailed management strategies that address the complex issues of user conflicts and resource degradation in specific geographical locations, at the district level. They directly address the issue of sustainable level of development and are formulated through extensive local participation. Negombo Lagoon has been identified as an estuary that qualifies for a Special Area Management Plan.

The major management issues in the Negombo lagoon include declining water quality, destruction of fishery habitats, declining fishery resources, land reclamation, loss of scenic quality , severe erosion along the ocean side of

the barrier spit and mounting conflicts among the ever increasing user groups. During Year Two the first steps in formulating an integrated SAMP will be taken by preparing an ecological history of the area that focusses on the evolution of the major resource management issue present today and the relationship amongst those issues. This initial effort will also review and assist the several research and management initiatives now on-going in the area. The final report shall include recommendations for formulation of an integrated management program.

Contractor: To be identified.

Work Task 7: Initial Mapping of Seagrass Beds

Despite the importance of seagrass habitats, very little is known about their distribution and condition in Sri Lanka. Little is known about the fauna they support and how they are affected by human activities. Mapping the location and extent of seagrass beds is therefore considered a priority. During the mapping exercise, an assessment of fauna they support and the impacts of human activities will be made. In view of the limited budget available the survey will have to be limited to selected areas.

Contractor: To be identified.

Work Task 8: Dune Restoration.

Large quantities of sand are mined from dunes for construction purposes. At some locations such mining has led to the lowering of dunes and during adverse weather conditions, breaching occurs at some of these points. Other management issues identified are removal of vegetation and grazing by livestock.

One of the mitigation measures recommended is the protection of exposed dunes by cultivation of vegetation. Colombo University is conducting preliminary experiments to identify suitable types of vegetation and methods of cultivation. The CCD will support a limited component of this research.

Contractor: To be identified.

Work Task 9: Identification of Sites for Mangrove Restoration

Mangrove areas are being rapidly destroyed and degraded by a variety of practices and processes including

- (1) Changes in the natural hydrologic regime from upland sources resulting in salinity intrusion and changes in local coastal current circulation pattern;
- (2) Overharvesting for fuel wood extraction;
- (3) Filling and other land reclamation practices, such as conversion to paddy and aquaculture ponds; and
- (4) Water pollution.

This degradation of mangroves adverse impacts on the sustained availability of building materials and fuel woods.

It also results in the loss of valuable habitat providing the support system for a variety of wildlife and economically important fishery species. There are several relevant on-going research projects undertaken by agencies such as the National Aquatic Resources Agency (NARA) and the National Resources, Energy and Natural Resources Authority (NARESA), the Forest Department and the Universities which are highly relevant to CCD's program. Pilot projects on mangrove restoration using nurseries and silviculture practices are considered important. Due to the limited funding available, the pilot restoration projects will be carried out at one or two sites.

Contractor: To be identified.

Work Task 10: White Paper on Alternate Sources of Lime.

Control of coral mining has been the central focus of CCD concern for nearly two decades. Coral mining in the form of destruction of living reefs is carried out in coastal sectors along the South West coast. This mining adversely affects a valuable resource which attracts tourists. Mining activity aggravates coastal erosion along the South Western coast where the highway and the railroad as well as large extents of privately owned property are seriously threatened by erosion at several points.

CCD has conducted several studies on the mining industry. It is now necessary to utilize the information obtained from these studies and to prepare a policy paper on strategy options to be adopted to make other sources of

lime (e.g. Dolomite, imported lime) a viable alternative. The paper will also identify the initiatives that need to be taken by other concerned agencies.

Contractor: To be identified.

Work Task 11: Development of a Beach Park in Colombo South.

In 1986, a meeting was convened by CCD to discuss the establishment of above. The meeting was attended by representatives from the Urban Development Authority; Colombo Municipal Council and the Railway Department. A survey of all dwelling units and other structures in the area, including the numbers of persons living in them and a physical survey of the area to be declared a beach park was carried out by the CCD. The survey plans have been forwarded to the Urban Development Authority to enable them to prepare landscape plans for the park. A decision needs to be taken regarding the leasing or vesting of the land with a relevant government agency.

Once the plans are prepared, it is proposed to harness the support of the Colombo South Rotarians (community service group) for the maintenance of the beach park.

Contractor: None.

#### 5.4 Training:

Work Task 1: Seminar for Mobilization of Support of District Level Field for Monitoring of Development Activities.

Monitoring of development activities within the coastal zone to ensure that such activities are carried out in

conformity with the permit producers specified in the Act has been a difficult task for the CCD due to non-availability of in-house staff for such monitoring. This shortcoming has been discussed with the Coast Conservation Advisory Council and it has been decided to mobilise the services of Grama Sevakas (village officers) to monitor such development activities within their assigned territory. A series of seminars for Grama Sevakas were initiated. One district level seminar and two electoral level seminars were held in 1986. The seminars were conducted by staff of the CCD in collaboration with District/Electoral Administrators.

Contractor: None.

Work Task 2: Workshop on Design of Curricular and Target Participants for a Post Graduate Program in Resources Management

AID/URI CRM project is assisting the University of Kelaniya in launching a post graduate program in Resources Management. A workshop to bring together relevant governmental agencies is scheduled to identify the training needs of each agency.

The CCD will provide limited funding and assist in the conduct of the workshop.

#### 5.5 Public Education and Outreach in Sri Lanka

Public awareness and support is a pre-requisite for the acceptance and effective implementation of the CZMP. The CCD has for the last 8 years been carrying out a public education program to disseminate information on the need for regulating development activities within the coastal zone. The program has been implemented through

the conducting of seminars, talks, poster competition, exhibitions, production of a film and short TV programmes, etc.

While there is a greater level of public awareness today on the need for management of coastal resources, much more requires to be done. There is also the need to inform the people on initiatives taken by the CCD and expenditure incurred in combating coastal erosion. Such programs will involve the participation of provincial and district administrators, school children, citizen groups and non-governmental groups concerned with environmental management.

Work Task 1: Continuation of the Public Education Programs.

The CCD will continue to fund activities associated with a public education and publicity program with focus on the general need for management initiatives in the coastal areas with particular reference to geographically specific resources units.

Contractor: To be identified.

5.6 On-going Permit Program.

The CCD commenced enforcement of the provisions of the Coast Conservation Act in 1983. Its enforcement activity was directed towards ensuring that development activities are in consonance with the principles outlined in the Act and were specifically in relation to ensuring conformity with setbacks in erosion prone stretches of the coast, control of sand mining where such mining might lead to coastal erosion, and implementing a ban on coral mining with due regard to socio-economic consequences of such a ban.

The regulatory activities of the CCD require considerable effort in terms of surveillance and monitoring of several stretches of the coastline in addition to inspections of particular sites when applications for development activities are received. Experience indicates that the regulatory process requires discussions with politicians, administrators, law enforcement officers and developers about the nature of the proposed enforcement measures, the timing and the ameliorative actions proposed, including alternative employment for those engaged in traditional activities who will be affected by the bans or controls.

There is the necessity to efficiently execute the permitting programme to ensure that it is done with knowledge of the social and economic consequences, that decisions taken are in conformity with accepted concepts of equity and justice and what is equally important, that processing of applications is expeditiously done.

GSL SECOND ANNUAL BUDGET OF IN-KIND CONTRIBUTION

		Rs.	\$
A. In-Country Project Administration			
1. Counterpart staff, secretariat services, transport, office space		250,000*	8,929
B. Production of CZM Plan		50,000	1,786
C. Plan implementation			
1. Preliminary study of acquisition of coastal land	100,000		
2. Delimitation of boundaries between state and private land in Negombo coast protection scheme area	100,000		
3. Historical coastline change survey	200,000		
4. Study of sediment transport in Kelaniganga	50,000		
5. Preliminary survey of problems of access to shorefront	50,000		
6. Special Area Management Plan Negombo	100,000		
7. Initial mapping of seagrass beds	50,000		
8. Studies on dune restoration	50,000		
9. Studies on mangrove restoration	50,000		
10. White Paper on alternate sources of lime	50,000		
11. Beach Park in Colombo	50,000		
12. Survey of alternate sources of lime (balance payment for work started in 1986)	80,000	930,000	33,214
D. Training			
1. Training of field staff	100,000		
2. Workshop on Training needs and post graduate education (Kelaniya)	10,000	110,000	3,929
E. Public Education and Outreach			
1. Publicity through media	500,000		
2. Seminars and exhibitions	140,000	640,000	22,857
		<u>1,980,000</u>	<u>70,715</u>
		=====	=====

\* This contribution is from the Recurrent budget. Provision is also used to meet expenditure required for carrying out regulatory activities in the coastal zone including grant of permits to developers.

CRM PROJECT SRI LANKA - PROGRESS OF WORK TASKS IN FIRST  
YEAR WORK PLAN

FUNDED THROUGH AID/URI CONTRIBUTIONS

Preparation of the CZM Plan

- |               |  |             |
|---------------|--|-------------|
| Work Task 1 : | October 1985 Workshop                                  | - Completed |
| Work Task 2 : | Synthesis of available information on Coastal Habitats | - Completed |
| Work Task 3 : | Mapping of Coastal Habitats                            | - Completed |
| Work Task 4 : | Coastal Habitat Workshop                               | - Completed |
| Work Task 5 : | Assistance in production of the CZM Plan               | - Completed |

Training

- |               |   |                    |
|---------------|---|--------------------|
| Work Task 1 : | Coastal Resources Curriculum Assessment | - Action initiated |
| Work Task 2 : | Training of District Administrators     | - Action initiated |
| Work Task 3 : | CCD staff training                      | - Completed        |

Outreach

- |               |                           |                |
|---------------|---------------------------|----------------|
| Work Task 1 : | Public Education Pamphlet | - Not taken up |
|---------------|---------------------------|----------------|

FUNDED THROUGH GSL CONTRIBUTIONS

Preparation of the CZM Plan

- |               |   |             |
|---------------|---|-------------|
| Work Task 1 : | Survey of sites of cultural, religious or scenic value                    | - Completed |
| Work Task 2 : | Synthesis of information on sites of cultural, religious and scenic value | - Completed |
| Work Task 3 : | Preparation of a preliminary inventory of reefs                           | - Completed |
| Work Task 4 : | Pilot study of user demands on coastal space                              | - Completed |
| Work Task 5 : | Writing of the CZM Plan document  | - Completed |

Surveys and Studies

- Work Task 2 : Historical coastline change survey - Completed
- Work Task 2 : An assessment of availability of sand in the Kaluganga estuary - Not taken up
- Work Task 3 : Preliminary assessment of problems associated with access to shorefront - Not taken up

Training

- Work Task 1 : Continuation of the public education programme - Partly completed
- Work Task 2 : Seminars for mobilization of support of District level staff - Partly completed

Outrech

- Work Task 1 : Development of a Beach Park for Colombo South - Action initiated