

Coast Conservation

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Since earliest times, the coastal zone has increasingly nurtured and shaped a developing civilization in Sri Lanka. By man's increased demand for the available resources of the coastal zone, the very area which is vital for the wellbeing of man is itself being placed in danger. The fragile nature of the coastal ecosystem necessitates careful management of its resources in order to maintain the stability of its environment.

Although degradation of the coastal environment was accepted hitherto by the national planning process in the last few decades, it is interesting to note that conservation or planned utilization of resources is not really a new idea to the people living in the maritime provinces of Sri Lanka. The Englishman, Robert Percival who visited Ceylon in 1803 mentions that Pearl Oyster fishing from Mannar southward off Arippe, Condatchy and Pomparippu was highly regulated by Government through a procedure where fishing was permitted for just 6 weeks in an year, whilst extensive surveys were also carried out to assess the reserves of the oyster beds.

The coastal areas support more than 50% percent of Sri Lanka's population. Increasing population concentrations in these areas in the future will increase the environmental stresses already perceived. Demands on coastal resources consist of (1) sea ports and commerce providing for port facilities, trade, industry and oil wells, (2) commercial development which includes beach resorts, fishery harbours for mooring and repair of fishing vessels and facilities for processing fish, (3) waste disposal for sewage outfalls and chemically polluted inland waterways, (4) brine intakes for salterns, (5) mineral extraction for commercial purposes, (6) public access and transportation (7) recreation for which clean beaches and warm, unpolluted coastal waters are essential ingredients, (8) natural resources contributing to productive areas for marine life where the total environment needs conservation, (9) residential development for private dwellings and (10) coastal protection to hold the diminishing frontiers from the ravages of the sea and the destructive activity of man. It would follow therefore, that the coastal zone cannot be treated in isolation but needs to be perceived as a part of the total environment. There is no doubt that an island eco-system cannot neglect the conservation of the coastal environment. In this context the effective and speedy conservation of Sri Lanka's fragile coastal zone cannot be postponed any longer.

Background

In the last decade substantial investment has been made on activity located in areas within the coastal zone. For example, about Rs. 350 million has been invested in the beach-oriented hotel industry, about Rs. 120 million in the provision of fishery harbours and shore facilities,

about Rs. 50 million in port development and about Rs. 15 million in the development of salterns. In contrast, during the same period, little or no investment was made on conserving the very area vital to support this development. The Government has now established a separate organisation viz. the Coast Conservation Division of the Ministry of Fisheries, from January 1978, for the preservation, restoration and development of the natural resources of Sri Lanka's coastal zone.

Coastal areas had been subject to considerable environmental degradation due to erosion, pollution, unplanned exploitation of coastal resources and ad-hoc coastal schemes of work usually located without resolution of use conflicts. Some factors contributing to such degradation consist of adverse sea conditions, reef destruction, sewage and industrial effluent discharge, coral and sand mining, poorly designed harbours and estuary outfalls, ad-hoc coast protection structures, disposal of dredged soil in near shore areas, off-shore discharge of oil from bilge tanks of ships, the dynamiting of fish, and high density use of beach resources for the tourist industry. In particular, reef destruction is caused by removal of reef material for commercial purposes, sediment settlement on corals, the effect of sewage and industrial effluent on reef communities, and the accelerated run-off of fresh water during floods.

Erosion has caused parts of the Hikkaduwa coast to retreat inland by about 1000 feet in the last sixty years representing a loss of over Rs. 10 million of land value alone along a stretch of 2 miles of coastline. With respect to coral mining it is estimated that a quantity of coral in excess of 10,000 tons per year is removed from the coastal zone and a quantity of over 300,000 cu. yds. of sand is removed from the South-West coast alone. The coast based lime production industry with a turnover in excess of Rs. 10 million per year needs to be carefully planned in order to ensure the availability of lime for the building industry, whilst at the same time safeguarding the natural defences from the ravages of the sea. The location, assessment and extraction of lime supplies from non-traditional areas, and restriction of the extraction of sand to outfalls, lagoons and selected off-shore areas are an urgent necessity.

Realising the need for a planned programme of coast conservation, the Government initiated action in 1972 to establish a separate organisation and to formulate necessary legislation for this purpose. Consequently, a limited programme for the training of personnel was undertaken and a Coastal Engineering Research Centre was established in 1975.

Present Status

Positive steps for a planned programme of Coast Conservation were taken in November 1977 with the decision to establish a Division of Coast Conservation in the Ministry of Fisheries from January 1978. A new Coast Conservation Law was drafted to ensure a comprehensive policy on coast conservation in relation to the total environment. This new Law is expected to be presented in Parliament shortly.

To achieve the aims of this programme, the Coast Conservation Division is structured to provide for Coastal Research, Coastal Works and Coastal Resource Development. Consultancy on coastal problems for the state and private sectors is provided by the Coastal Engineering Research Centre, whilst the design and construction of coast protection structures on an expanded scale are to be undertaken by the Coastal Works Unit. The Coastal Resource Development Unit will be responsible for the planned development of the coastal zone and in particular the implementation of the Coast Conservation Law. For this purpose, surveys and studies are being carried out (i) to assess present coral mining and sand mining activity and to locate alternative sources of supply, (ii) for the preparation of a coastal resource inventory and (iii) to assess the environmental impact of effluent discharge, reef destruction and beach pollution on the coastal zone. Socio-economic surveys of people engaged in activity contributing to the degradation of the coastal environment are also being carried out. The initial phase of the new programme of Coast Conservation is directed to infrastructure development capable of meeting the needs of a comprehensive programme of Coast Conservation in the future, whilst at the same time undertaking limited conservation work within the present organisational resource potential.

Legislation

Legislation for sea-shore protection is contained in Part VII of the Crown Lands Ordinance. This legislation merely provides for the granting of permits for developments affecting the foreshore and prohibiting and regulating by license the removal of material from the foreshore. Past experience indicated that these provisions were inadequate to deal with the rapidly increasing demands for coast conservation. It was therefore decided to draft separate legislation for this purpose with the repeal of the relevant sections of the Crown Lands Ordinance. With this in view, draft legislation was presented in the N.S.A. in October 1976 but could not be taken up due to prorogation and subsequent dissolution of Parliament. When the position was reviewed in 1977, it was decided to re-draft this Law to take into account the requirements of the total coastal environment. It was found that there existed a number of other Laws which had some concern over coastal development under relevant ordinances, viz. (1) local authorities had the power to control developments, in the coastal zone, (2) the Department of Town and Country Planning prepared land use plans for a number of coastal areas, (3) beach-fronted tourist

hotels needed the approval of the Ceylon Tourist Board, (4) factories were subject to the licensing jurisdiction of the Ministry of Industries and Scientific Affairs as well as the Ministry of Labour, (5) the construction of sewer outfalls was regulated by the Water Supply and Drainage Board, (6) prospecting and mining in the coastal zone were under the control of the Geological Survey Dept., (7) other developments were within the purview of the Colombo Port Commission, Ceylon Fishery Harbour Corporation and related organisations. In the drafting of the new Coast Conservation Law therefore, provision had to be made for suitable amendments to these Ordinances. The new Law was drafted to provide for the following requirements:— (1) The new act should facilitate comprehensive Coastal Zone Management. (2) The legislation should establish a comprehensive coastal zone planning mechanism. (3) The legislation should address itself to the social consequences of better coastal management. (4) The new bill should define "Coastal Zone" more broadly than the 1976 Bill. Provision has now been made for this zone to extend 2 km. seawards of the foreshore and 300 m. landwards of the foreshore (for planning purposes upto 2 km. landwards). (5) The new Bill should include an appropriate environmental impact assessment provision. (6) A contingency Plan is needed in order to protect the coast from threats of major oil spill catastrophes. This is being provided for in the new marine pollution legislation being drafted in the Ministry of Shipping and Trade. (7) The new legislation should ensure the proper coordination of all Governmental development activities in the coastal zone. (8) An increasing need to control coastal pollution, including river borne pollution carried to the coast from inland sources. It was felt that this could be met through a mechanism whereby the Director of Coast Conservation notifies the appropriate Authority that pollution from an inland source is adversely affecting coastal water and which requires the appropriate authority to take remedial action. This is even more important today, now that industrialization is being encouraged on a much larger scale through the development of a free trade zone. A case in point is the possible environmental effects on the Negombo Lagoon of industrialization in the adjacent areas.

Conclusion

There is today a greater awareness of the environment than in the past, and it is hoped that concerned organizations, individuals and the Government would make a concerted effort to preserve, restore and improve the coastal environment for this and succeeding generations. To achieve this it is necessary, apart from government inputs, to obtain the active participation of coastal dwellers through a publicity and propaganda campaign to increase public awareness of the consequences of coastal environmental degradation. Success in this regard could only be achieved through the cooperation of related Governmental Institutes and private organisations, bearing in mind that the coastal environment is only a part of the country's total environment.