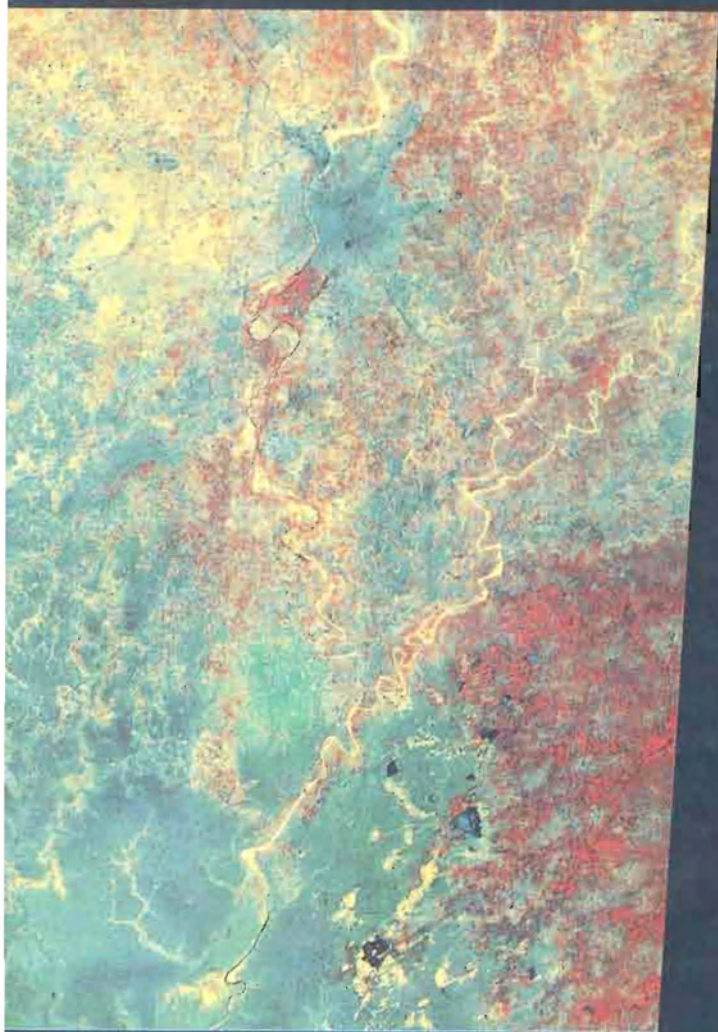# SACEP
Environment Natural Resources
Information Centre
(SENRIC)

**South Asia Co-operative
Environment Programme
May, 1994**

Background:

South Asia Co-operative Environment Programme (SACEP) was the culmination of two years of deep deliberations by the ten countries concerned, on the feasibility of regional co-operation on environmental oriented development activities.

The programme activities of SACEP since formation have been based on the Fifteen Priority Subject Matter Areas which had been approved at its First Governing Council Meeting held in Colombo in January, 1983. The major activities are listed below:

a. South Asian Regional Seas Programme
b. Regional Environmental & Natural Resources Information Centre
c. Environmental Legislation
d. Year of Trees for South Asia

Under the second activity stipulated above, an Information Centre for the dissemination of Environment Information in the South Asian Region is being set up through a close assistance from the Asian Development Bank (ADB) and the United Nations Environment Programme (UNEP). The information centre will act as a node for the Regional Environment Natural Resources Information Network (RENRIN) being implemented by UNEP/GRID-Bangkok for the Asia and Pacific Region and termed as SENRIC.

SENRIC will be set up with a Geographical Information System (GIS) facility and upgraded with

an Image Processing (IP) system at a later stage to undertake the activities as given in the Memorandum of Understanding.

GIS in simple terms:

The concept of databases and information system management through the use of computers evolved to prove a great improvement in data management, efficient project co-ordination / implementation, reduced project time period, etc.

Geographical Information System (GIS) - as the name clearly suggests, is an information management system where spatial or geographic information is linked to the locational feature (attribute) information (as in the case of pipe data in a water supply network) and allows modeling on the data that has been fed into the database system.

A GIS system adopts every single competent feature from any database management system besides being able to offer the dynamic linking of the geographical information to the feature data. In this case, as the geographic and attribute data are interlinked, computer programs can be developed and a great deal of efficiency can be achieved in the facility management projects (besides many other applications, of course). Complete data management (queries on the existing data, update / inventory management), complex modeling to integrate the inventory data with engineering applications to achieve a total automation of the system can be done with

ease - which in turn yields reduced project implementation costs.

One of the most important features of a GIS is its ability to store in tabular form, numerical data relating to a particular geographical location, and automatically convert this information into maps or other outputs on request. For instance, the results of a census could be processed by the computer and then output as a map of population densities in the country or region concerned. As population levels change, the data sets involved can be updated and the relevant population densities printed out.
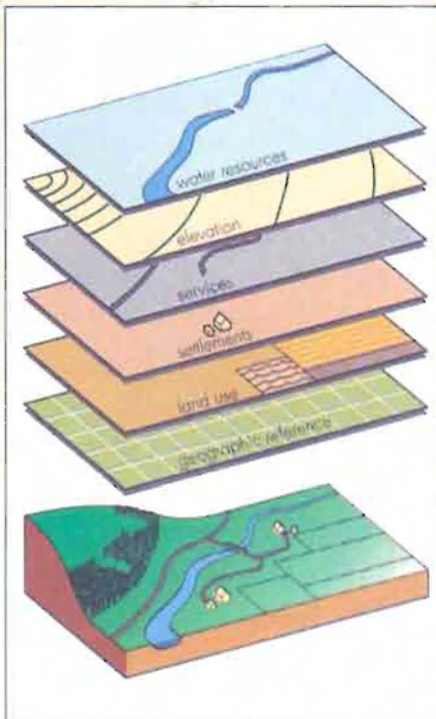
Map overlaying technique used by GIS

A GIS can also be used to convert incompatible data sets to the same scale so that they can be more easily compared. Once this is done, a GIS can be used to superimpose or overlay several different datasets to produce a composite (see illustration), enabling users to visualize, model and quantify the interaction of many different parameters - such as topography, soil and weather patterns.

Overlays can be made at a global, national or regional level, depending on the nature and scale of the data provided, and user requirements. The GIS overlaying technique is invaluable in the study of problems which have more than one contributory factor - such as soil erosion which depends on such factors as the nature of soil, rainfall, wind speed, vegetation, land use and slope.

One should however keep in mind that GIS is a tool that could help manage our work in a better way and not a solution by itself.

Establishment of SENRIC

UNEP has established RENRIC at Bangkok to bring about inter-country co-operation in the countries in the Asia Pacific region.

This is the first venture of its kind to bring together diverse skills and common perceptions on environmental issues across geographical boundaries, involving both regional/sub-regional institutions and countries in the region.

The primary mission of RENRIC is to facilitate the provision and exchange of environmental information to support the decision making and action towards sustainable development. Most specifically, the tasks are Capacity Building, Environmental Sensing, and Catalyzing Government response.

In the first phase of its operation, RENRIC has identified five sub-regional institutions for focussed attention, mainly, ICIMOD, Mekong Committee, SPREP, SACEP and ASOEN along with countries of the respective region. RENRIC will build its collaborative process based on the following building blocks.

* Build on existing institutional base on a complementary and non-competitive basis;

* Integrate scattered institutions, experts and data to avoid duplication of efforts;

* Build data on compatible format systems and classification to facilitate aggregation;

* Build incountry capability for human resource development and institution building; and

* Build national/regional networked and decentralized environmental resource information systems.

SENRIC will be the constituent of RENRIC at the South Asia level, having its sub-regional network with headquarters at SACEP Office in Colombo. It will

also build up nodal centres in the headquarters of the member countries in a networking fashion. Through this programme, the committed money for the project will flow to the Member Countries for the above activities to be undertaken.

In order to facilitate better co-ordination, each Member Country would constitute a National Advisory Group (NAG).

SENRIC Priority Objectives

* **Capacity Building:** Through the assistance from UNEP, SENRIC would assist in establishing institutions to provide policy makers of the region with tools, information and equipment to evolve appropriate environmentally sound strategies and help in setting up appropriate laws and regulations. Capacity building does not remain institutional assistance alone. It entails technology transfer, collaborative financing, training and information dissemination.

   a. Increase capacities of Governments utilizing modern information technologies and tools to integrate bio-physical and socio-economic data.

   b. Establish sub-national, national, sub-regional, and regional environment information network.

   c. Facilitate to bring together bilateral, multilateral and other agencies on a

common collaborative programme to support environmental institutions with necessary mechanisms to transfer technology for the establishment of decision support systems.

d. Assist in the dissemination of holistic environment concepts through training in Geographical Information Systems and Remote Sensing (GIS/RS) applications.

* **Sense the Environment:** To assist UNEP at the sub regional level, to know the state of the environment at any point in time to provide early warning.

   a. Develop 1:250000 scale bio-physical and socio-economic datasets.
   b. Assess annually environment information at national and regional levels.

* **Catalyze Government Response :** Assist UNEP to bring Governments together to develop policies, programmes, or to negotiate agreements towards sustainable development. It can serve as a focal point for emerging issues to achieve sustainable management of natural resources.

   a. Prepare national, sub-regional state of environment (SoE) reports, environment impact assessments (EIAs) through integration of bio-physical and socio-economic information.

SENRIC Programme Implementation Strategy

Following salient activities indicate the SENRIC strategy in setting up the network under the UNEP/ GRID umbrella for the Environmental Database for the region.

a. Establishment of GIS facility

SENRIC will be equipped with a GIS unit which will facilitate the programme activities.

b. Directory of Environmental Institutions

SENRIC would contact the governmental bodies to develop a directory of environmental institutions and experts and consequently make proposals to UNEP for capacity building exercise.

c. GIS Training for the Government Bodies

Training at three levels (Policy, Professional and Technical) will be conducted at SENRIC during the second half of the year to promote the understanding of the technology.

d. Case Studies

Case studies concurrently will be developed to include the local conditions and incorporated in the training programmes.

e. Resource Database

Along with the other nodes of RENRIC, a 1:250'000 scale database will be developed and packaged to the Government in ArcView software format.

f. Capacity Building

Initially an Environmental Information System (EIS) at the Environment Ministry, followed by GIS facilities for other departments will be provided from the inventory directory exercise estimates, through assistance from UNEP/GRID.

g. State of Environmental (SoE) Reporting

As emphasized in Chapter 40 of the Agenda 21 document of UNCED, to aid the informed decision making, a constant SoE Reporting will be done through the UNEP/GRID for the region, taking into consideration of the bio-physical and socio- economic parameters.

h. EIS Establishment for the Countries

An EIS will be established within the Ministry of Environment to facilitate the decision making process within the government.

Future of SENRIC

The initial year of its establishment, SENRIC would concentrate on the two regional countries Sri Lanka and Maldives to establish the EIS, followed by its other member countries in the consecutive years. SENRIC would continuously train the government departments of the region to complement the RENRIC network activities in the region and constantly build the GIS awareness at all user levels, to meet its objectives. It is further envisaged that SENRIC would initiate bilateral / multilateral projects to aid the government in dealing with the environmental issues, in association with the other agencies working in similar activities.

UNEP's Networking Strategy for Establishment of GIS Facility for Asia and Pacific
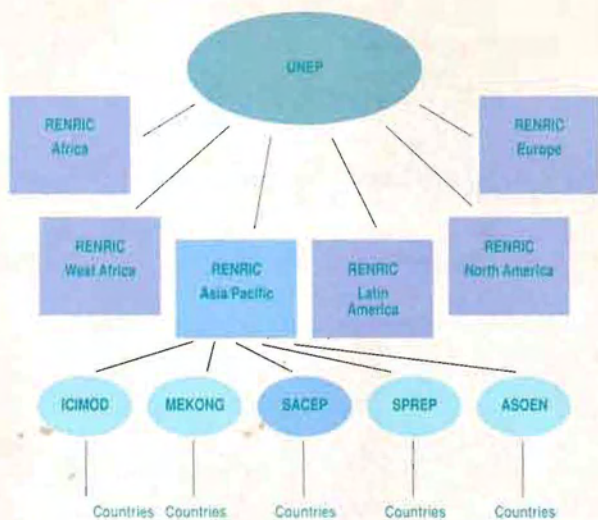
SENRIC Network for the SACEP Regional Countries
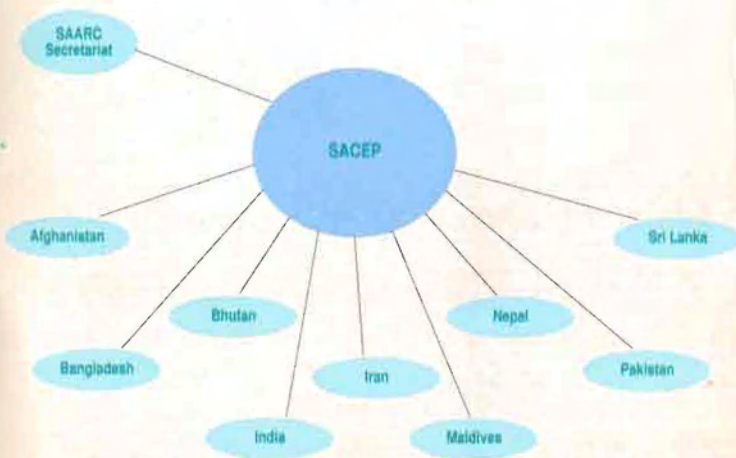
SACEP Member Countries

AFGHANISTAN

BANGLADESH

BHUTAN

INDIA

IRAN

MALDIVES

NEPAL

PAKISTAN

SRI LANKA

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