

**UNU-UNESCO International Course**  
**Biodiversity in Mangrove Ecosystems**

Centre of Advanced Studies in Marine Biology  
Annamalai University  
Parangipettai, India

**Third Course: 10-24 March, 2003**

*Application Deadline: 31 December, 2002*

**SCIENTIFIC FOCUS:**

The course focuses primarily on mangrove ecosystems while maintaining an integrated approach towards management of coastal ecosystems. Particular emphasis will be given to teaching the methodology for assessing, monitoring and conserving biodiversity in mangrove ecosystems. This is achieved through a multidisciplinary team of lecturers and through hands-on involvement of the participants. The course is held annually in early spring of each year.

**BACKGROUND:**

Coastal zones are an important part of our environment that currently provide living space for about 55 percent of the world's population. Our society draws heavily on coastal and marine ecosystems for food, building sites, transportation, recreation and waste disposal. Coastal ecosystems (e.g., coral reefs, mangroves, and wetlands) are also one of the world's richest storehouses of biological diversity and primary productivity. It is estimated that about half of the world's coastal ecosystems face a significant risk of degradation from human activities. In this context, the South and Southeast Asian coastal ecosystems are perhaps among the most threatened regions.

**COURSE OBJECTIVES:**

The main objective of the Training Course is to build the capacity of professionals and institutions in developing countries to undertake monitoring, research and conservation of critical coastal ecosystems within mangrove forests. This is achieved through training of young professionals in the scientific methodology and description of latest research work on related subjects. A secondary objective is to promote and encourage development of a network of professionals from developing countries working in this field.

**COURSE CONTENT:**

The training course comprises the following elements:

- Lectures and demonstration (audio-visual) by participants on the mangrove and related ecosystems of their country / region
- Group Discussions

- Study of environmental parameters in estuaries, mangroves and coastal waters
- Impacts of anthropogenic activities on various subecosystems contained within mangroves, particularly impact of chemicals and pollutants
- Qualitative and quantitative assessment of biological parameters viz. plankton, macro flora and fauna. Similarly, assessment of microorganisms (bacteria) from water and sediments of mangroves and allied areas
- Field visit - different mangroves, estuary, coastal area, backwater and lake.
- Sampling of aquatic macro-flora and fauna - collection, preservation and identification (Taxonomy)
- Use of instruments and laboratory equipment, e.g., water and sediment samplers
- In vitro propagation of mangrove plants - Tissue culture techniques
- Aquaculture practices – prawn (shrimp) and fish culture
- Museum specimens – collection, preparation and preservation techniques
- Conservation and sustainable use of mangrove ecosystems

### **SELECTION CRITERIA:**

Candidates for undergoing the training are chosen purely on merit basis, considering their educational and professional background. The basic approach is “training the trainer” and so the applicants should be in a position to replicate the training in their own countries/institutions. It is envisioned that the candidates are young professionals in early stages of their career and hold at least a post-graduate degree in marine sciences or a closely related field. It is preferred that he/she holds a position of Assistant Professor/Associate Professor or its equivalent in a university or other educational and research institutions. Proficiency in spoken and written English is a must. It is incumbent upon the candidate to demonstrate the proficiency in English language skills.

Candidates from the following countries are strongly encouraged to apply: Bangladesh, Cambodia, China, India, Indonesia, Korea, Malaysia, Maldives, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Vietnam.

The course is held once a year in early spring of each year. To be considered, completed Course Application Forms and Fellowship Application forms must be received at the Annamalai University by **31 December, 2002**. These forms can be downloaded from this website or requested directly from Dr. Subramanian at the address provided below.

[Course Application Form](#) [[MS Word file 64 KB](#)] [[PDF file 24 KB](#)]  
[Fellowship Application Form](#)

### **FELLOWSHIPS:**

A limited number of fellowships are available to qualified candidates from developing countries only. These fellowships will be granted on **a competitive basis** and will cover the entire expenses of the workshop, including economy excursion airfares via the most direct route for candidates from outside India. Candidates from India will be reimbursed for train tickets via the most direct route.

**In order to qualify for these fellowships, completed Fellowship Application forms must be submitted along with the Course Application form by 31 December, 2002.** These forms can be downloaded from this website or requested directly from Dr. Subramanian at the address provided below.

**CONTACT INFORMATION:**

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**USEFUL LINKS:**

- UNU's [Environment and Sustainable Development Programme](#)
- UNU's Coastal Hydrosphere Project: [LandBase](#)
- UNESCO'S [Man and Biosphere Programme](#)
- [Ocean Research Institute \(ORI\)](#), University of Tokyo, Japan
- International Center for Living Aquatic Resources Management – [ICLARM](#)
- [National Water Research Institute](#), Canada