



## TROPICAL SEMESTER

Can Tho University, Vietnam

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### **Tropical Mangroves and Wetlands**

Module Number: 2

3 credits

Lecturer(s): Dr. Nguyen Van Be ([nvbe@ctu.edu.vn](mailto:nvbe@ctu.edu.vn))

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#### ***Course Introduction***

This module introduces the students to the structure and function of wetlands and mangrove ecosystems, the complex social and ecological issues surrounding the management of wetlands and mangrove ecosystems in the Mekong Delta

#### ***Course Objectives***

To provide the students the knowledge of wetland and mangrove ecology and management, the importance of wetlands and mangroves to natural process, the life of local communities and how to manage them for sustainable development.

#### ***Lectures***

##### **A. Wetlands (10 hours)**

###### **I. Introduction of the course**

1.1. Overview of wetlands and wetlands in the Mekong Delta

1.2. Soil and water characteristics

###### **II. Biological diversity and productivity of wetland in Mekong Delta . Introduction of Tram Chim wetland reserve**

2.1. Wetland and biodiversity. Introduction of main plant, animal and fish resource

2.2. Patterns of distribution of wildlife

###### **III. Introduction to socio-economic factors of the wetland**

3.1. Activities, livelihood of local people

3.2. Role of local community in wetland

3.3. Some socio-economic issues related to wetland (use, exploit, benefit, conserve)

###### **IV. Wetland resource management**

4.1. Sustainable management of wetland: balance economic development with environmental conservation (fish, forest trees and other resources such as bee, bird )

4.2. Case story : Management wetland conflict in Tram Chim :

4.2.1. Environment Inside and outside the Reserve

4.2.1. Dry and wet regime of water

- 4.2.3. Cranes and other species
- B. Mangroves (10 hours)
- I. Distribution and importance of mangroves
- 1.1. Status of mangrove forests
- 1.2. Importance of mangroves
- II. Biodiversity in mangroves
- 2.1. Flora
- 2.2. Fauna
- III. Mangrove ecosystems and ecology
- 3.1. Mangrove ecosystem and other coastal ecosystems
- 3.2. Ecological links to coastal and freshwater ecosystems
- VI. Issues of mangroves and coastal protection
- 4.1. Conversion of mangrove areas to shrimp ponds
- 4.2. Pollution
- V. Mangrove management
- 5.1. The legal status of mangroves in Vietnam
- 5.2. Sustainable development and mangrove rehabilitation efforts in the Mekong Delta

### ***Field Trips***

The students will have two-day field trip to mangrove and wetland conservation sites in the regions. The students can select one in the following sites:

1. Tram Chim National Park in Tam Nong district, Dong Thap province to discover a special landscape in the Mekong Delta and have chance to talk with local people to understand more the importance of wetland function, value of wetland in term of socioeconomic, culture, ecology and tourism.
2. Dat Mui National Park and 184 Forestry and Fishery Enterprise in the Ca Mau Peninsula to expose to mangrove forests in the Southernmost tip of Vietnam to assess the importance of mangroves for the livelihood of local people such as eco-tourism and mangrove- shrimp integrated farming systems
3. Can Gio Biosphere Reserve in Can Gio district, Ho Chi Minh city to assess the impacts of tourism and intensive shrimp farming to the mangrove resources

### Suggested Readings

Aksornkoae, S., 1993. Ecology and Management of Mangroves. IUCN, Bangkok, Thailand (*Read pp 20-31, CH5*)

Government of Vietnam, 1999. Rehabilitation of mangrove forests project, Southern Mekong delta, Vietnam. Final report.

Hiroshi Hori. (2000). The Mekong environment and development. United Nations University Press.

[Http://www.worldbank.org.vn](http://www.worldbank.org.vn). Vietnam environment monitor 2003: Water.

- Institute for Development Anthropology. (1999). Environment and society in the lower Mekong basin: A landscaping review. IDA working paper No. 9
- Macintosh, D.J., 1998. Mangroves and Coastal Aquaculture Sustainability. In: Report of a Regional Study and workshop Aquaculture sustainability and the environment. ADB and NACA.
- Mitsch , W. J. and Gosselink, J. G. (2000). Wetlands. 3<sup>rd</sup> edition. John Wiley and Sons, New York.
- P.N. & San, H.T., 1993. Mangroves of Vietnam. IUCN, Bangkok, Thailand, 173p (*Read CH 5, 6 and 7*)
- Patrick J. Dugan. (1990). Wetland Conservation: A review of current issues and required action. The World Conservation Union.
- R. J. Safford, Duong Van Ni, E. Maltby and Vo-Tong Xuan. (1997). Towards sustainable management of Tram Chim National Reserve, Viet Nam. Darwin *Melaleuca* Wetland project.