



Millennium Ecosystem Assessment



Ministry of the  
Environment



中国科学院  
CHINESE ACADEMY OF SCIENCES



NIES



United Nations  
University

**UNU/IAS**  
Institute of  
Advanced Studies

# Workshop on Sustainable Environmental Management of Catchment Ecosystem in Asia-Pacific Region

25-26 November 2002, Tokyo, JAPAN

## Sponsored jointly by

*Ministry of the Environment, Government of Japan  
The Millennium Ecosystem Assessment (MA)*

## Organized jointly by

*National Institute for Environmental Studies (NIES), Japan  
Institute of Geographical Science & Natural Resources Research (IGSRR), CAS  
The Institute of Advanced Studies of the United Nations University (UNU/IAS)*

## **Purpose**

Changes in water circulation and the depletion and pollution of water resources in East Asia are cited at the top of twenty-first century environmental problems facing the world. These problems are particularly striking in China, where the deterioration of natural resources, including blockages of the Yellow River, flooding of the Changjiang river basins, and desertification, has a major impact on economic activity.

The river basin is a basic unit of the environment necessary for supporting balanced development in East Asia. Scientists must give thought to sustainable methods for managing the environment, and to scientifically observe and understand the ecosystem functions of a river basin. In order to develop methods to forecast the degradation and recovery of ecosystem functions through models that manage a river basin environment based on ecosystem function, they need to propose sustainable environment management plans that cover the application of environmental recovery technologies, reevaluation of development plans, and reducing environmental load.

The purpose of this workshop is to address the following issues:

- (1) To scientifically elucidate ecological functions in large-catchments in East Asia by using GIS and Remote-sensing techniques.
- (2) To establish a land environment management models to forecast how human alterations to water circulation affect ecological functions like agricultural output capacity and the preservation of water resources.

(3) To use river basin environmental management models to evaluate the impact on river basin ecosystems of power generation and water resource development, including dam construction and water transport

(4) To use these models as the basis for proposing environmental management policies that support sustainable river basin development.

### **Place**

5F, Elizabeth Rose Hall, United Nations University (UN House)  
53-70 Jingu-mae 5cho-me, Shibuya-ku, Tokyo 150-8925 Japan

### **Contact**

Yuko Sato (Ph.D.)  
Visiting Research Associate  
Institute of Advanced Studies  
United Nations University  
53-67, Jingumae 5-chome, Shibuya-ku, Tokyo 150-8304 Japan  
Tel: +81-3-5467-5548 (direct)  
+81-3-5467-2323 (reception)  
Fax: +81-3-5467-2324  
E-mail: y\_sato@ias.unu.edu

## **Program**

### **Day 1 (25 Nov.)**

**Morning: 9:00 – 9:40** **Opening Ceremony**

*Greetings from official leaders*

**Prof. Motoyuki Suzuki**

*(Vice-Rector, Unite Nations University)*

**Hironori Hamanaka**

*(Vice Minister for Global Environmental Affairs, Ministry of the Environment, Japan)*

**Prof. Zakri A. H.**

*(Director, Institute for Advanced Studies, United Nations University) An Introduction to the MA Design and Process*

**9:40 – 10:00** **Objectives of the Workshop**

**Prof. Masataka Watanabe** (NIES, Japan) *The Assessment of Catchment-based Ecosystems*

**10:00 – 11:40** **1-1 Catchment Management**  
**(25 min/person)**

**Keynote Speech: Environmental Management in Reservoir/Lake**

*(J. Imberger, University of Western Australia, Australia)*

**Possible Environmental Effects of “the Three Gorge Dam”**

*(Shaozhong Lin and Guzheng Jiang,, Changjiang Water Resources Commission, China)*

**Ecological Modeling of Lakes and Reservoirs**

*(S.E.Jorgensen,,Royal Danish School of Pharmacy, Denmark)*

**Biogeochemical Process in Changjiang River Catchment**

*(Masataka Watanabe, NIES, Japan)*

**11:40 – 12:00** **Discussion**

**12:00 – 13:30** **Lunch**

**Afternoon: 13:30 – 16:00** **1-2 Catchment Modeling**

**(25 min/person)** **Keynote Speech: Hydrological Modeling**

*(Murugesu Sivapalan, University of Western Australia,Australia)*

**Distribution Hydrological Modeling in Yellow River Basin, China**

*(Changming Liu, IGSNRR, CAS)*

**Watershed Hydrological Modeling in Changjiang River Basin, China**

*(Seiji Hayashi, NIES, Japan)*

**Application of Sediment Routing Model to Jialingjian Watershed**

*(Shogo Murakami, NIES, Japan)*

**Sediment Transfer Modeling in Changjiang Drainage Basin: Possible Consequences** (Zhongyuan Chen, East China Normal University , China)

**15:35-16:00**

**Discussion**

**16:00-16:15**

**Coffee Break**

**16:15-17:30**  
**(25 min/person)**

**1-3 Catchment Ecosystem Monitoring by MODIS**

**Keynote Speech: Watershed Land Use/Cover Change Monitoring in China**

*(Jiyuan Liu,IGSNRR, CAS, China)*

**Research on Terrestrial Ecological Modeling in China**

*(Guirui Yu, IGSNRR, CAS, China)*

**Water, Heat and Carbon Fluxes on Various Terrestrial Ecological Systems in China**

*(Qinxue Wang, NIES, Japan)*

**17:05-17:30**

**Discussion**

**Evening: 18:30-20:30 Reception**

**Day 2 (26 Nov.)**

**Morning: 9:00 -11:00**

**2-1 MA Sub-Global Assessment**

**Overview of the MA Sub-Global Assessments**

*(Marcus Lee, MA Secretariat)*

**Overview of the Western China Sub-global Assessments**

*(Jiyua, Liu,IGSNRR, CAS, China)*

**Eco-economic Development Strategy in the Western China**

*(Suocheng Dong, IGSNRR,CAS, China)*

**Gariiep Basin Component of the Southern African Sub-Global Assessments**

*(Erin Bohensky, University of Pretoria, South Africa)*

**Laguna Lake Bains Sub-Global Assessment and Use of Hydrological Modelling**

*(Maureen Cuevas, University of Philippines, Philippines)*

**Biodiversity Conservation and Economic Development in the Upstream Region of Great Rivers in Northwest Yunnan**

*(Daming He,Yunnan University, China)*

**11:00-12:00 General Discussion**

**12:00-13:00 Lunch**

**Afternoon: 13:00-14:40**

**2-2 Harmonization between Catchment Ecosystem and Urban Ecosystem**

**Keynote Speech: Overview of Research Project on Water and Material Cycle for Tokyo Bay Restoration**

*(Kunio Kohata, NIES, Japan)*

**Dynamics of Water Cycle in Kushiro Mire by Using NIES**

**Integrated Catchment-based Eco-Hydrology Model assimilated with MODIS Satellite Data**

*(Tadanobu Nakayama, NIES, Japan)*

**The Advances of Ecopolis Modeling in China with A Case Study in Yangzhou**

*(Rusong Wang, Research Center for Eco-Environmental*

Sciences, CAS )  
*Engineering Approach to Ecosystem-friendly and Recycle-Oriented  
Society*

*(Tohru Morioka, Osaka University, Japan)*

**14:40-15:00** Discussion

**15:00-15:15** Coffee Break

**15:15-16:30** General Discussion  
Blueprint for Action in World Water Forum

**16:30-17:00** *Concluding Remarks: Prof.Zakri A. H., Co-chair of MA*

**Committee Meeting for Creation of Co-habitation Society of Man and Nature will be held  
immediately after the Workshop (17:15-17:45).**