

## Environmental Impact Assessment and Strategic Environmental Assessment

### Tools for Mainstreaming Environmental Sustainability – Brendan Barr

The late 1960s and early 1970s witnessed the emergence of a number of tools such as environmental impact assessment and strategic environmental assessment. These tools have evolved over the past three decades and represent powerful instruments for supporting holistic thinking on how to tackle environmental problems. This lecture will support environmental decision-making: Environmental Impact Assessment and Strategic Environmental Assessment. The students will learn how to differentiate between these two tools. In addition, they will have the opportunity to critically explore the strengths and weaknesses of each with the support of practical case studies.

#### Outline of the lecture:

1. Introduction
2. Case Study: About the New Ishigaki Island Airport
3. Discuss SEA
4. Discuss EIA
5. Case Study: M4 Relief Road (Wales)
6. Closing Remarks

#### References:

Bond R., J. Curran, C. Kirkpatrick and N. Lee (2001): 'Integrated impact assessment for sustainable development: a case study approach', *World Development*, Vol 29, No 6, pp 1011-1024.



Scholten J.J. & R.A.M. Post (1999): 'Strengthening the integrated approach to environmental assessment and development cooperation', *Environmental Impact Assessment Review*, 19, pp 1011-1024.

Brouwer R. and R. van Ek (2004): 'Integrated ecological, economic and social impact assessment of flood control policies in the Netherlands', *Ecological Economics*, 50, pp.1-24.

Glasson, J., Therivel, R. and Chadwick, A. (1998) *Introduction and Principles of Environmental Impact Assessment*, UCL Press. London.






Therivel R. (2004) *Strategic Environmental Assessment in Action*, Earthscan Publications Ltd.

#### Presentations:




-  Integrated Impact Assessment (IIA) by Arabinda Mishra, TERI
-  Environmental Impact Assessment and Strategic Environmental Assessment

#### Resources

-  Report on the SEA for the M4 Relief Road
-  Report by UNEP on Environmental Assessment and Strategic Environmental Assessment
-  Principles of Environmental Assessment Best Practice
-  UNEP Studies of EIA Practice in Developing Countries
-  Mitsubishi Research Institute Report on Effective SEA Systems and Cases
-  UNU course Module on SEA (in development)

-  [UNU Wiki on SEA](#)
-  [Public Involvement with EIA Yokohama, Japan](#)
-  Identifies the broad thematic areas in which IIA has been practised at IIA
-  Provides a comprehensive thematic guide to integrated assessment s
-  Report of the UK Mapping Project on the practice of IIA in the UK

#### API Video Recording:

-  Part I: Introduction by Brendan Barrett
-  Part II: Integrated Impact Assessment (IIA) by Arabinda Mishra
-  Part III: Environmental Impact Assessment and Strategic Environmental , by Brendan Barrett

#### QUIZ:






-  Session 2 Quiz

- 4 October 19, 2006 (Thursday) Hawaii, Samoa  
October 20, 2006 (Friday) Fiji, India, Japan, Thailand

### Monitoring the Earth: Earth Observing Technologies

At the macro level, the earth (land as well as seabed) topology, sea surface constantly observed by earth observing satellites of various kinds. The information is shared by scientific communities for practical use ranging from regional fisheries, and weather forecasting. Integrated and sustained Ocean Observing in this context. At the micro level, sensor technologies are used to monitor one particular point, which in turn are recorded on regional basis, providing environmental quality of the region. Environmental visualization sensor technology with a plan of forming an environmental observation network based on satellite

**Presentations:**

-  Complex Environmental Systems: Synthesis for Earth, Life and Society in
-  PDF version of Dr. Kenneth Kaneshiro's presentation
-  Cyberinfrastructure for Environmental Research and Education by Mike Kido
-  PDF version of Mr. Mike Kido's presentation
-  Kona Design Tsunami by Mike Kido

**API Video Recordings:**

-  Part I: Monitoring the Earth. Complex Environmental Systems: Synthesis by Dr. Kenneth Kaneshiro
-  Part II: Cyberinfrastructure for Environmental Research and Education by Mike Kido

- 5**   **October 26, 2006 (Thursday)**   **Hawaii, Samoa**  
           **October 27, 2006 (Friday)**        **Fiji, India, Japan, Thailand**

**Coral Reef Management and Marine Biodiversity**

**KEYNOTE SPEAKERS:**   **Co-Management of Coastal Fisheries Res**  
    Kakuma, University of the Ryukyus



**DR. SHINICHIRO  
KAKUMA,**

Research Institute for  
Subtropics, Okinawa,

**Small Island Ecosystems and Susta**

Japan

**DR. RANDY THAMAN**

Professor,  
Pacific Islands  
Biogeography, University  
of South Pacific,  
Suva, Fiji Islands.

**Presentations:**

-  Co-Management of Coastal Fisheries Resources in Okinawa and Asia Pacific
-  Island Biodiversity by Dr. Randy Thaman

**API Video Recordings:**

-  Co-Management of Coastal Fisheries Resources in Okinawa and Asia Pacific
-  Small Island Ecosystems and Sustainable Development by Professor Thaman

**6**    **November 09, 2006**                      **Hawaii, Samoa**  
           **(Thursday)**  
           **November 10, 2006 (Friday)**    **Fiji, India, Japan, Thailand**

**Land Tenure and Forest Resource Management****The International Negotiation for A Stable Global Climate**

This session will deal with the issue of global climate change. For the first half of the session, the lecturer will provide the students with the basic information about the current global climate change regime. This global environmental regime consists of the United Nations Framework Convention on Climate Change and the Protocol. The second half of the session will be a negotiation, or a class discussion, that will be carried out by the students. The theme of the discussion session will be how to strengthen the climate change regime. The first commitment period of greenhouse gases reduction by most industrialized countries is 2008-2012.



**Presentation:**

 [The International Negotiation for A Stable Global Climate by Prof. Kei](#)

**Curriculum Vitae:**

 [Professor Keijiro Otsuka](#)

**Lecture Outline:**

 [The International Negotiation for A Stable Global Climate](#)

**API Video Recording:**

 [The International Negotiation for A Stable Global Climate by Dr. Keijiro](#)

**7 November 16, 2006 (Thursday) Hawaii, Samoa**

**November 17, 2005 (Friday) Fiji, India, Japan, Thailand**

## **Coastal Zone Research, Planning & Management and Integrated Coastal Management**

### **Coastal Zone Research**

Indo-Pacific region is the world's richest region for marine biodiversity. one integrated ecosystem, various types of human activities including a top soil, inflow of pesticides and fertilizers), construction (terrestrial r currents and sand movement), fisheries, and leisure activities impact o there has not been enough exchange of views among stakeholders. Fea: approach to coastal management is discussed by experts on mangroves zone ecosystem.

**Part I: Managing Coastal Erosion by Prof. Chip Fletcher**

**Part II: Periodic Assessment of Human Exposure to Air Po Sources: A Potential Indicator of the Effectiveness of Emi Programs in Asia by Prof. Peter Flachsbar**

### **Learning Objectives:**

The air quality of many Asian cities exceeds ambient standards limiting concentrations of particulate matter, sulfur dioxide, and nitrogen dioxi

World Health Organization, an estimated 487,000 Asians are at risk of p year because of poor urban air quality. To address this problem, many , launched or expanded mobile-source emission control programs during programs often were modeled after programs in developed nations such and the United States. Several Asian countries have plans to tighten the emission standards over the next several years. Given these plans, it w baseline surveys of human or personal exposure to mobile-source air po assess compliance with the standards by repeating the surveys at perio every few years). These surveys could use portable monitors to measur certain air pollutants (e.g., carbon monoxide and particulate matter) e sources. Unlike air quality monitoring at fixed sites, there are no legal i personal exposure to air pollution on roadways. Yet, these studies offer improve knowledge of air pollution exposure and its effects, and to disc exposure. Many exposure studies have been performed in North Americ during the last 40 years. While several road-user exposure studies have China, India, and Indonesia, very few studies have been done elsewhere exposure studies are particularly applicable for cities in the developing have rapidly growing vehicle populations, congested roads and confined motor vehicle emission control programs.

#### Reading:

Please read *Exposure to Carbon Monoxide* (under Resources below). Th Professor Flachsbart wrote in a book titled: *Exposure Analysis* (book cov

#### Presentations:

 [Periodic Assessment of Human Exposure to Air Pollution from Mobile Control Programs in Asia by Prof. Flachsbart](#)

#### Resources:

 [Book title: Exposure Analysis](#)


 [Exposure to Carbon Monoxide by Prof. Peter Flachsbart](#)

#### Miscellaneous:

 [Article in the Honolulu Advertiser by Professor Fletcher \(October 30, :](#)

#### API Video Recordings:

 [Part I: Managing Coastal Erosion by Prof. Chip Fletcher](#)

 [Part II: Periodic Assessment of Human Exposure to Air Pollution from Emission Control Programs in Asia by Prof. Peter Flachsbart](#)

#### Quiz:

 [Session 7 Quiz](#)

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|----------|---|-------------------------------------|
| <b>8</b> | <b>November 30 , 2006</b><br>(Thursday) | <b>Hawaii, Samoa</b>                |
|          | <b>December 01, 2006 (Friday)</b>       | <b>Fiji, India, Japan, Thailand</b> |

### Land, Air & Marine Based Chemicals, Waste and Pollution “Land and Marine-Based Chemical Pollution” by [Dr. Jacinta](#)

Land and marine-based chemical pollution, because of the phenomena of