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**Annual Report**  
**July 1, 2003 - June 30, 2004**

**October 2004**

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**Annual Report**  
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David Glover, Director  
October, 2004

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**1. WHAT IS EEPSEA?**

The Economy and Environment Program for Southeast Asia was established in May 1993 to support training and research in environmental and resource economics. Its goal is to strengthen local capacity for the economic analysis of environmental problems so that researchers can provide sound advice to policymakers. The program uses a networking approach to provide not only financial support but meetings, resource persons, access to literature, publication outlets, and opportunities for comparative research across its ten member countries. These are Thailand, Malaysia, Indonesia, the Philippines, Vietnam, Cambodia, Laos, China, Papua New Guinea and Sri Lanka.

EEPSEA's structure consists of a Sponsors Group, comprising all donors contributing at least USD 100,000 per year; an Advisory Committee of senior scholars and policy makers; and a small Secretariat in Singapore and the Philippines. EEPSEA is a project administered by the International Development Research Centre (IDRC) on behalf of the Sponsors Group.

Typically, researchers learn about EEPSEA by various means and apply for a research or training award. Most applicants attend one of EEPSEA's courses before or in conjunction with their research project. Budget ceilings for research projects are CAD 24,000-35,000, depending on the country. Researchers may be affiliated with a university, government or non-government organization and grants are normally made to that institution. Most projects are carried out by teams of researchers.

Proposals are sent to experts for written review. Those recommended for further consideration must then be revised and presented in a working group meeting at the next EEPSEA biannual meeting. Further revisions are usually called for, until the project is judged satisfactory and a grant approved. After approval, interim findings are presented and critiqued every six months until the project is completed. Researchers receive frequent technical assistance and literature from the Secretariat and resource persons. Final reports from successful projects are widely disseminated by EEPSEA and by the researchers themselves through publications, the media, and consultations with policy makers.

The selection process for both training and research awards is highly competitive. Of 130 applications for our 1997 regional course, 27 were accepted. Approximately one application in four for research awards is accepted. To date, EEPSEA has provided training to some 496 people and supported 152 research projects.

## 2. HIGHLIGHTS

As always, this year's Annual Report emphasizes the **impacts and accomplishments** of EEPSEA's members, documenting a number of noteworthy achievements. These include examples of policy impact related to forest protection, waste minimization, and pollution control; media events; new courses offered by EEPSEA members; and members' career achievements. In several cases, the findings and methods from EEPSEA research were applied in the projects of other agencies.

With regard to activities, 14 new projects were funded and 4 courses were offered.

## 3. TRAINING

### a) **Regional Core Course in Chiang Mai**

EEPSEA's semi-annual advanced course in environmental and resource economics took place in Chiang Mai, Thailand, March 29- April 24. The course consists of four modules: cost-benefit analysis & pollution control; valuation; resource management; and economy-wide & international issues. Participants have the option of attending the first two modules, the last two, or all four. Instructors were *Myrick Freeman III*, *Nancy Olewiler*, *Benoit Laplante* and *Ian Coxhead*. The course outline can be viewed at [www.eepsea.org](http://www.eepsea.org).

### b) **Climate Change and the Clean Development Mechanism**

EEPSEA offered a four-day course on Climate Change and the Clean Development Mechanism in November 2003. The instructor was *Randall Spalding-Fecher* of the Energy and Development Research Centre, Cape Town.

### c) **Contingent Valuation and Choice Modeling**

Contingent valuation (CV) and choice modeling (CM) are used by environmental economists to assess people's willingness to pay for goods or services that are not currently available in the market. They are often applied to water, sanitation and health services as well as environmental improvements.

Among the methods' leading practitioners are *Dale Whittington* of the University of North Carolina at Chapel Hill and *Vic Adamowicz* of the University of Alberta. They taught a six-day course in Hanoi, Vietnam, May 9-14. It focused on questionnaire and research design, fieldwork planning and management, enumerator training, sampling, and ethical concerns. Special attention was paid to the needs of policy makers and the

collection of policy-relevant information. The last day dealt with data analysis & interpretation.

**d) Effective Writing**

A half-day session on **effective writing** was first conducted at the May 2002 biannual workshop. In November 2002, it was expanded to a full day. It is now run periodically for EEPSEA researchers who were not present at earlier offerings (most recently in May 2004). It uses a combination of lectures, examples and hands-on exercises to demonstrate effective ways to present research results. Participants received an interactive CD-ROM with which to further hone their skills after the workshop.

**e) Online Library Services for EEPSEA Researchers**

IDRC has kindly agreed to provide EEPSEA researchers who have active projects with access to a collection of research databases. The collection indexes over 30,000 journal titles, some 7,000 of which include full text. Of these databases, the Econlit and Business Source Premier have substantial economics content, including *Land Economics*, *Ecological Economics* and *JEEM*. Researchers can search these databases themselves online and obtain the full text of journal articles found in the databases from the IDRC library (if they are not available locally). IDRC assigns each active researcher a user name and password valid for the duration of the EEPSEA-funded project.

## **4. RESEARCH**

Fourteen projects were approved, two of which were PhD thesis awards.

1. Bui Dung The  
*Payment for Environmental Services in Vietnam*
2. L.H.P. Gunaratne  
*Cost-Effectiveness of Different Measures Adopted in Conservation of Elephants in Sri Lanka*
3. Siriporn Kiratikarnkul  
*A Cost-Effectiveness Analysis of Alternative Methods of the Disposal of Animal Waste in Pig Farms in Thailand*
4. Udomsak Seenprachawong  
*Economic Valuation of Cultural Heritage: Historic Temples in Amphawa, Thailand*

5. Antonio Corinthia Naz  
*Modeling Choices for Ecological Solid Waste Management Services in Suburban Municipalities: User Fees in Tuba, Benguet, Philippines*
6. Zhang Junlian  
*Barriers and Transaction Costs of Water Markets in Heihe River Basin in Northwest China*
7. Sunil Chandrasiri  
*Health Impact of Diesel Vehicle Exhaust Emissions in Colombo*
8. Ruimin Huang  
*The Impacts of International Trade on Chinese Factories Environmental Performance*
9. Sideth Muong  
*Implementation of Effluent Taxes for Cambodian Industry: A Pollution Levies Assessment*
10. Anan Wattanakuljarus  
*The Nation-Wide Economic and Environmental Impacts of Changes in Tourism: An Applied General Equilibrium Approach for Thailand*
11. Linda Penalba  
*Biotechnology Product Development, Biosafety Regulations and Environmental Risk Assessment in the Philippines*
12. Orapan Nabangchang  
*Motivations for Charitable Behaviour for Protection of Wildlife and Endangered Species of Thailand*
13. Xianchun Liao  
*Measuring Resources and Socioeconomic Impacts of a National Program to Protect Natural Forest in China*
14. Funing Zhong  
*Crop Insurance on Agrochemical use by farmers in the Manasi Watershed in Xinjiang China*

## 5. BIANNUAL WORKSHOPS

Effective January 2004, the deadlines to submit proposals in the biannual research awards competitions were moved forward by one month. This allows more time for review & revision and for planning of the associated biannual workshops.

The new deadlines for proposals are: *February 1* for the May workshop and *August 1* for the November workshop. Deadlines for interim and final reports are unchanged (*April 1* for the May workshop and *October 1* for the November workshop).

### a) November 2003 Biannual Workshop

This was EEPSEA's twentieth biannual workshop and a belated tenth anniversary for the program, which was launched in May 1993. Twenty-three proposals and reports were presented in four concurrent working groups in Singapore. Three sessions were held in plenary:

**Thomas Sterner** talked about the design and implementation of economic instruments for environmental management. The talk was based on his recent book. He provided many examples where changes in behaviour can be effected with relatively small price increases, provided the circumstances are right. For example, small charges can sometimes affect consumers' behaviour if combined with education campaigns. Industrial firms may be able to reduce pollution at very low cost if the abatement devices are installed when equipment has reached the end of its natural life and needs to be replaced anyway.

Much of the discussion focused on implementation. While policymakers in developing countries are familiar with economic instruments and their advantages, the more difficult questions they pose are about where to start – with one region or sector? with the largest firms, or the ones that create most pollution? At what level should an environmental tax initially be set?

**Dale Whittington** discussed work in progress to assess people's willingness to pay for typhoid and cholera vaccines in Hue, Vietnam. This work uses the increasingly popular "choice modeling" method to identify the product characteristics most desired by potential buyers.

Since this is a relatively new method, the consistency of results obtained from choice modeling has not yet been subject to the intensive scrutiny that contingent valuation has. Dale has been testing his survey results to see if they show consistent preferences and whether giving respondents time to think makes a difference to their answers. The session involved plenty of audience participation, with the workshop participants filling out survey forms and testing the results for consistency. The results

from the Vietnam experiments and the workshop exercise were similar, in that most respondents did show consistent preferences.

The last plenary session was an interactive exercise by **Nancy Olewiler** in which participants analyzed a data set and drew policy conclusions from it. In this case, the data were drawn from a journal article on deforestation in Vietnam. The participants were assigned roles as various stakeholders (poor farmers, forest inspectors, Ministry of Environment) and attempted to come to a consensus about policy directions during a roundtable forum. Consensus was reached on measures that were low-cost or could be financed through development assistance. There was also consensus on a series of more ambitious measures, but very little willingness to pay for them through taxes - a result not uncommon in the real world!

#### **b) May 2004 Biannual Workshop**

The theme of this twenty-first biannual workshop, held in Hanoi, Vietnam, May 16-20, was “**paying for environmental services from forests**”. This topic was explored in two plenary sessions and in several of the proposals and reports presented by researchers.

**Stefano Pagiola** from the World Bank described the general principles of environmental service payments (ESPs) and illustrated them with a role-playing exercise set in Costa Rica. Participants were divided into upstream and downstream actors, given information about their own costs and benefits (but not the other parties) and instructed to strike a deal.

**Paul Ferraro** from Georgia State University discussed his work on direct conservation payments. (Direct payments are similar to ESPs except that they pay people living in and around forests to conserve a given area of land, rather than for protecting specific services.) It suggests that paying rural people directly to refrain from degrading sensitive environments may be more effective and less costly than attacking the problem indirectly through development projects.

Paul also described an auction system that could be used to assess the size of the payments needed to induce people to conserve. In principle, the auction should accurately reveal the minimum amount of compensation that forest users would need to forego environmentally damaging land uses. A lively debate ensued about the ethics of such an approach. If auction participants were fully informed in advance about the purpose of the exercise, they may be tempted to collude to increase the compensation they would receive. On the other hand, deceiving the participants about the purpose of the auction would probably not be ethical.

These ethical problems may be pertinent, not just to auctions but to any method



that assesses minimum willingness to accept compensation. If deals for environmental service payments are struck between willing buyers and sellers, they will benefit both parties. But the distribution of benefits will depend on how effectively each party bargains. Should researchers provide information that could be used by one party and not the other? Should payments be set at a high level as a way of reducing poverty? Or at a low level, so that a given sum of money can secure a larger area for conservation, and provide payments to a larger group of beneficiaries? There were no firm conclusions about these matters but plenty of opinions and questions for further consideration.

Paul's paper can be found on the EEPSEA website under *Special Papers*.

## **6. OTHER MEETINGS**

### **a) Resources and Environmental Economics Association of the Philippines**

The Association held its second (locally-financed) meeting in Manila on May 9. On March 12, it hosted the launch of a new book produced under Association auspices (Economy and Environment: Selected Readings in the Philippines).

### **b) Vietnam Environmental Economists Association**

The Association held meetings in June 2003 and June 2004, focusing on water and wetlands, respectively. The meetings were co-financed by EEPSEA and local sources.

### **c) Cambodia and Indonesia Consultations**

EEPSEA's Deputy Director made trips to Cambodia and Indonesia to assess the research environment and encourage submission of more proposals from local researchers. She visited a variety of academic and government institutions in both the capital cities and the provinces.

## **7. IN-COUNTRY ASSOCIATE, VIETNAM**

*Phan Thi Giac Tam*'s main responsibilities over the last year were to disseminate EEPSEA publications and facilitate communication among EEPSEA researchers and policymakers. Included in this were the Vietnamese translation and distribution of 12 Policy Briefs.

Two journalists from "Science & Life" (Khoa hoc va Doi song) interviewed Tam about her work with EEPSEA and about the findings from recent EEPSEA projects. She also publicized EEPSEA's work at a September 24-26 meeting of journalists on

“Environmental Problems of South Vietnam”. This was held in Ho Chi Minh City by the Ministry of Natural Resources and Environment. Tam’s participation focused on the role environmental economics can play in providing solutions.

Tam reports that Environmental Economics is now a mandatory course in Vietnam’s Economics BSc programs, as well as in the BSc and MSc programs in Environmental Science & Technology. Most of these courses are taught by EEPSEA alumni.

A consultation was held in May 2004 with a group of EEPSEA alumni to assess training needs. Priority was given to a short course that would upgrade the content and teaching methods of the various degree courses in environmental economics taught in Vietnamese universities.

## 8. PUBLICATIONS PROGRAM

### a) Books

EEPSEA provided principal funding for Economy and Environment: Selected Readings in the Philippines, an anthology of studies in environmental and resource economics. Most of these were the outputs of EEPSEA-funded research. The book was publicly launched on March 12. (See “Other Meetings”.)

### b) Research Reports

2003 - RR5 *Do Institutions Affect the Performance of Marine Protected Areas? Evidence from the Philippines* - Esmyra Parado Javier

2003 - RR6 *Wildlife Trading in Vietnam: Why It Flourishes* - Nguyen Van Song

2003 - RR7 *What Motivates Farmers? Tree Growing and Land Use Decisions in the Grasslands of Claveria, Philippines* - Canesio D. Predo

2003 - RR8 *Metering and A Water Permits Scheme for Groundwater Use in Cagayan de Oro* - Rosalina Palanca-Tan and Germelino M. Bautista

2003 - RR9 *Economic Evaluation of Fishery Policies in Lamon Bay, Quezon, Philippines* - Maribec Campos, Blanquita Pantoja, Nerlita Manalili and Marideth Bravo

2003 - RR10 *A Cost-Benefit Analysis of Resettlement Policy: A Case Study of Ob Luang National Park, Northern Thailand* - Orapan Nabangchang

2003 - RR11 *Economic and Environmental Impacts of Using Treated Distillery Slops for Irrigation of Sugarcane Fields* - Nerlita M. Manalili, Rodrigo B. Badayos and Moises A. Dorado

**c) Policy Briefs**

*Making Waves: Improving the Management of Philippine Marine Reserves* - **Esmyra Parado Javier**

*Tracking the Trade: Vietnam's Illegal Wildlife Business* - **Nguyen Van Song**

*Planting for the Future: Options for Upland Grasslands in the Philippines* - **Canesio D. Predo**

*Pulling the Plug on Water Mining: A Groundwater Conservation Strategy from the Philippines* - **Rosalina Palanca-Tan and Germelino M. Bautista**

*Fish for the Future: An Assessment of Fishery Conservation Policies in the Philippines* - **Maribec Campos, Blanquita Pantoja, Nerlita Manalili and Marideth Bravo**

*Living with Nature? Assessing Resettlement from a National Park in Thailand* - **Orapan Nabangchang**

*Benefits from Byproducts: Recycling Distillery Wastes for Sugarcane Production* - **Nerlita M. Manalili, Rodrigo B. Badayos and Moises A. Dorado**

**d) Special Papers**

*Direct Payments to Protect Endangered Ecosystems and Experimental Methods to Estimate Payment Costs* - **Paul Ferraro**

**e) Procedures Manual**

EEPSEA has prepared a manual that outlines the operating procedures for its research awards and related activities (workshops, short courses, publications, and so on). It includes form letters, contracts, guidelines, agenda and other standardized documents that EEPSEA has developed over the last ten years. This may be useful to organizations interested in managing similar programs. Copies of the manual can be obtained from the Secretariat.

**f) Website**

Since 1996 we have tracked usage of our website. The earliest measure we used

was “hits”:

1996/97	18,000	1999/00	427,053	2002/03	771,985
1997/98	60,000	2000/01	531,700		
1998/99	215,000	2000/02	690,058		

However, this is a poor measure of usage, since text, images and icons and so on require separate hits. A single printed page may require 5 or 6 hits. So in 1999, we began to monitor “user visits” i.e., the number of times visitors actually entered the site and extracted information. This is normally a much smaller figure than hits:

1999/00	23,787	2001/02	73,616
2000/01	41,777	2002/03	80,622

In 2003, EEPSEA’s website was redesigned and relocated to the IDRC server in Ottawa. For technical reasons, it was not possible to measure user visits during the transition period, which lasted several months. Our best estimate is that the site received about 160,000 “pages views” in 03-04. Unfortunately, this figure is not directly comparable to either hit or user visits, except that as rule of thumb, users tend to view about 3 pages per visits. If so, the estimate of 160,000 page views is plausible and indicates considerable usage of the website. A new tool is being developed by IDRC to measure website usage; we hope it will enable us to provide more accurate reporting in 2005.

## **9. IMPACT & OUTREACH**

### **a) Policy Impact**

#### **i) Protecting Forests in Cambodia**

In late 2003, staff from the Fond Francais pour l'Environnement Mondial (FFEM, also known as French GEF) and the French Development Agency met with *Thanakvaro T. De Lopez* to discuss his Research Report on stakeholder benefits from protection of Ream National Park. Following the meeting, FFEM carried out a pre-feasibility study for a project to strengthen management and promote eco-tourism at Ream. Negotiations are underway with the government about implementation of such a project.

#### **ii) Philippines Environment Secretary Promotes Recycling**

The Philippines' Department of Environment and Natural Resources Secretary Elisea Gozun told the residents of Tuba, Benguet, that those who generate waste must pay for the services they receive for the collection, transport and disposal of these in

environmentally-friendly manner. She stressed this in her speech during the turn-over of the materials recovery facility (MRF) or collection center for recyclables from the DENR to the Tuba municipality on April 29, 2004 in Barangay Poblacion, Tuba, Benguet. Tuba is the project site of the new EEPSEA study, "Modeling Choices for Ecological Solid Waste Management Services: The Case of User Fees in Tuba, Benguet, Philippines". The study aims to assist the Tuba municipal government in designing their ecological solid waste management (ESWM) program and in examining how to finance these ESWM services through user fees. The project is managed by REECS, Inc. with Corinthia Naz as the project leader. Initial findings of the study show that in Barangay Poblacion, the sale of recyclables could generate revenues for the municipality of PHP 4,544 per month.

### iii) **Introducing Unit Pricing for Solid Waste Services in the Philippines**

Working closely with the local government of another Philippines municipality - Olongapo City - *Eugenia Bennagen and Vincent Altez* assessed the full costs (environmental and financial) of the city's program for solid waste management. To minimize these costs, they recommended a system of unit pricing, whereby households would pay for each bag of garbage disposed of. The city government used this information in a recent reassessment of household garbage fees. This resulted in a new schedule of monthly fees effective September, 2002.

### iv) **Economic Approaches to Pollution Control in the Philippines**

*Anabeth Indab's* feasibility study for water pollution tax for Sarangani Bay has attracted the attention of local and national policymakers. The Dept. of Environment and Natural Resources used the study in setting the guidelines for the implementation of the National Environmental User Fee, while the local government of General Santos City has posted a copy of her research report on its website to create awareness of the potential advantages of this approach.

### b) **Media Events**

*Nguyen Van Song's* Research Report on Vietnam's **illegal trade in endangered wildlife** has attracted widespread media attention. The Ministry of Natural Resources and Environment publicized the results three times in its magazine Hang Thang. Interviews with the author appeared on Vietnam Television, Voice of Vietnam, Vietnam Marketing, and many newspapers. The Research Report was also posted on the website of the Convention for International Trade in Endangered Species (CITES).

*EEPSEA's Director* was interviewed about poverty and the environment on Radio Singapore International on March 1.

**c) Members' Accomplishments and Career Development**

Several members applied skills they developed with EEPSEA in other fora, without EEPSEA funding.

As a result of his EEPSEA research on Vietnam's illegal trade in endangered wildlife (see "Media Events" above), *Nguyen Van Song* is now working as an advisor to TRAFFIC-Indochina on this issue.

*Nguyen Van Hanh* taught a series of courses on the *Clean Development Mechanism* for government officials in Hanoi, Hue and Ho Chi Minh City. He based the course on the EEPSEA course he attended on this subject in November, 2003.

*Dang Minh Phuong* was appointed Head of the Department of Environmental & Natural Resource Economics of Nong Lam University. Last semester, he designed a 74-page syllabus for this new program, which was recently approved by the Ministry of Education & Training. It will begin with 80 students in the academic year 2004-2005. Other EEPSEA alumni, including *Phan Thi Giac Tam*, are also playing key roles in the program's development. EEPSEA has donated a set of books in resource economics to fill gaps in the university's library.

*Ms. Kim Anh*, a graduate of EEPSEA's in-country training program for Vietnam, was recently appointed Dean of the Faculty of Fisheries Economics at the University of Fisheries, Nha Trang.

*Herath Gunatalike* joined the Asian Development Bank as environment specialist for the Mekong region.

*Sununtar Setboonsarng* is now a researcher at the Asian Development Bank Institute in Tokyo.

As a result of his EEPSEA-supported research on willingness to pay to conserve the Tubbataha Reefs, WWF-Philippines hired *Rodelio Subade* as consultant in a socio-economic study of the communities near Tubbataha and the impacts of illegal fishing on its conservation.

Three researchers (*Eugene Bennagen*, *Pham Khan Nam* and *LHP Gunaratne*) drew on their EEPSEA experience to successfully bid for projects in the highly competitive Dutch program "Poverty Reduction and Environmental Management".

*Mao Xianqiang* acted as a consultant for two task forces of the CCICED (the "China Council") dealing with green taxation and reform of China's rural financial system. He also consulted for a UNEP-SEPA project on environmental impacts of

China's accession to the WTO.

*Yeo Bee Hong* attended the regional core course and was sponsored by EEPSEA to attend a ten-day course on water management. Originally an employee of WWF, she recently joined the WorldFish Center. She has used the knowledge she acquired in these courses in a variety of projects and reports, including the following.

with WWF Malaysia:

- Rapid Stakeholder Assessment and Economic Benefits of Fish Resources of the Selangor River Basin
- Water Demand Management: A Review of Feasibility in Selangor.

with Planning and Economics Research (PE Research Sdn.Bhd.):

- Economic Instruments Handbook: Economic Approaches to Sustainable Development Projects
- Integrated River Basin Management of the Langat River Basin
- Formulation of a Spatial and Conceptual Guideline for the Sustainable Nature Tourism Development of the Forests of Ulu Muda, Kedah

with WorldFish Center:

- Aquatic Resources Valuation and Policies for Poverty Elimination in the Lower Mekong Basin

*Udomsak Seenprachawong* and *Suwanna Praneetwatakul* taught a short course on economic valuation of wetlands for a Danish-funded project to implement the RAMSAR Convention on Wetlands in December in Bangkok.

#### **d) Journal Articles & Chapters**

A number of publications derived from EEPSEA-funded reports were published in journals and books:

*Yusman Syaukat* and Glenn C. Fox, "Conjunctive Surface and Ground Water Management in the Jakarta Region, Indonesia". Journal of the American Water Resources Association, Vol. 40, No. 1, February 2004.

*Mao Xianqiang, Peng Yingdeng, Guo Xiurui*. "Cost-Benefit Analysis of Substituting Natural Gas for Coal Projects in Large Chinese Cities". Environmental Science, Vol. 23, 2002 [reported late].

*Mao Xianqiang, Guo Xiurui, Chang Yongguan*, "Environmental-economic Policy Analysis for Natural Gas Substitution for Coal in Large Cities: A Chongqing Case Study". Chongqing Environmental Science, Vol. 25, No. 12, 2003.

A paper by *Pham Khanh Nam* and *TranVo Hung Son* was published by the World Fish Centre in the Conference Proceedings of the International Consultative Workshop on Economic Valuation and Policy Priorities for Sustainable Management of Coral Reefs, (December 2001).

Short versions of Research Reports by *Pham Khanh Nam* and *Udomak Seenprachawong* - on valuation of coral reef ecosystems in Vietnam and Thailand, respectively - were published in M. Ahmed at al, ed., Economic Valuation and Policy Priorities for Sustainable Management of Coral Reefs (WorldFish Center, 2004).

*David Glover*, "The Dollars and Sense of Environmental Protection". Tata Energy Research Institute EnCore Bulletin, December, 2003.

*Thanakvaro Thyl De Lopez* published two articles this year from his EEPSEA Research Report on a Cambodian protected area:

"Economics and Stakeholders of Ream National Park, Cambodia". Ecological Economics, 46 (2003) 269-282.

"Natural Resource Exploitation in Cambodia: An Examination of Use, Appropriation and Exclusion". Journal of Environment and Development, Vol. 11, No. 4, December 2002, 355-379.

*Bui Dung The*, "Land Use Systems and Erosion in the Uplands of the Central Coast, Vietnam". Environment, Development and Sustainability, Vol. 5, No. 3/4 (2003) 461-476.

*Bui Dung The*, "Erosion and Economic Efficiency of Sugarcane Production in the Uplands of Phu Loc, Thua Thien. Hue Scientific Journal, Hue University, No. 11, 2002.

*Yaoqi Zhang* et al, "Deforestation and Reforestation in Hainan: Roles of Markets and Institutions". W. F. Hyde at el, ed. China's Forests: Global Lessons from Market Reforms. Resources for the Future and Center for International Forestry Research, 2003.

*Wendong Tao* et al, "Tradable Discharge Permits for Water Pollution: The Case of the Upper Nanpan River of China". Environmental and Resource Economics 15 (1) January 2000, 27-38.

*Vu Xuan Quang*, "Forecasting Carbon Dioxide Emissions in Vietnam". Ching-Cheng Chang et al ed., Global Warming and the Asian Pacific, Edward Elgar, 2003.

*Zeny Sumalde*, "Transaction Costs of Community-Based Coastal Resource



Management: The Case of San Miguel Bay, Philippines”, in Coastal Management, 32 (2004) 51-60.

*Lina Tan*, “Watersheds and Groundwater Depletion in the Philippines: The Cagayan de Oro Experience” (with G.M. Bautista). Institute of Philippine Culture, Ateneo de Manila University (ADMU), Quezon City, 2003.

Edward Barbier & *Suthawan Sathirathai*, ed. Shrimp Farming and Mangrove Loss in Thailand. Edward Elgar, January 2004.

#### **e) Citations and Re-publication**

In several cases, methods employed by EEPSEA researchers were applied in research or development projects elsewhere. EEPSEA reports were also cited or re-published in other publications.

*Eugenia Bennagen's* work on the damages from the Marinduque mining disaster was cited in the World Bank's Strengthening Environmental Enforcement and Compliance Technical Assistance Study. *Hermi Francisco's* study on the Bolinao oil spill was cited in the same report.

The World Bank Philippine Environment Monitor for 2003 also contains a full-page feature on *Eugenia's* Marinduque mining study.

The Policy Brief for *Eugenia Bennagen's* study of household waste recycling was reprinted in the Philippines Institute of Development Research Development Research News, July-August 2003.

WWF-Philippines cited *Rodel Subade's* work on willingness to pay to preserve Tubbataha Reefs in its report Sustaining the Benefits of Tubbataha Reefs National Marine Park: A Ten Year Business Plan (2004).

The EEPSEA/WWF study of damages from *Indonesia's haze and fires* in 1997 was cited several times:

The Financial Times, June 30, 2004

A. Varma in “The economics of slash and burn: a case study of the 1997-98 Indonesian forest fires”. Ecological Economics 46 (2003) 159–171;

James D. Fahn, “A Land on Fire: The Environmental Consequences of the Southeast Asian Boom”, 2003.

The original EEPSEA/WWF book was also favourably reviewed in the journal ASIEN.

*Canesio Predo's* Research Report was quoted in BAR Today (a publication of the Philippines Bureau of Agriculture).

*Les Catelo's* work on livestock waste was cited in Costales, A.C., et al "Policy, Technical and Environmental Determinants and Implications of the Scaling-Up of Broiler and Swine Production in the Philippines", IFPRI-UPLB, June 2003.

*Nguyen Nghia Bien's* work was cited in "Assessing Different Approaches to Forest Management in Viet Nam", IDRC Reports Sept. 22, 2000 [reported late].

#### **f) Conference Presentations**

Several researchers presented work supported by EEPSEA at regional and international conferences, most with sponsorship from other agencies.

The International Science Planning Committee (ISPC) of *Canesio Predo's* paper on "Tree Growing Investment Decisions of Smallholder Farmers in Claveria, Northern Mindanao, Philippines", was accepted for presentation at the October 16-18, 2003 Open Meeting of the Human Dimensions of Global Environmental Change Research Community in Montreal. It was also accepted for presentation at the IAREH Fifth International Symposium: Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities, October 19-23, 2003, Saskatoon, Canada.

A paper from the same study "Tree-based Farming Systems for Improving the Productivity and Sustainability of Marginal Uplands in the Philippines" was selected as one of the finalists for the 2004 Award for Best Oral Paper for Research - Downstream Category by the Crop Science Society of the Philippines and presented at the CSSP conference in Davao, March 8-12, 2004.

Two poster papers from *Canesio's* study were accepted at the 1<sup>st</sup> World Congress of Agroforestry, June 27 - July 2, 2004 in Orlando, Florida, USA.

*Orapan Nabangchang's* work on resettlement in protected areas in Thailand was discussed at a video conference on land issues organized by the World Bank (December 1 to 4). The report was posted on the Bank's website for a distance learning course on Land Policy for Growth and Poverty Reduction in Southeast Asia.

*Les Catelo* presented her paper on environmental consequences of livestock intensification at the PAEDA Biannual Conference, Manila, October 23, 2003 (Philippine Agricultural Economics and Development Association).

Results from *Bing and Lorie Rufo's* study of waste incineration in Manila were presented at the Better Air Quality Conference in Manila December 17-19 (sponsored by World Bank, Asian Development Bank and USAID).

*Anabeth Indab's* paper on the feasibility of pollution taxes was presented at the First International Symposium on the Southeast Asian Water Environment at the Asian Institute of Technology in Bangkok in October.

*Yusman Syaukat's* work on groundwater management in Jakarta was presented at the Integrated Decision-Making for Watershed Management Symposium, January 7-9, 2001 in Chevy Chase, Maryland [reported late].

**g) Environmental Valuation Reference Inventory (EVRI)**

Seven new studies were input to Environment Canada's global valuation database.

**h) Other Events**

The Secretariat provided advice and materials to the City of Toronto, Canada for a seminar on *practical applications of environmental economics in a municipal setting*.

## **10. MANAGEMENT**

Staffing of the Secretariat continued unchanged: *David Glover* (Director) and *Catherine Ndiaye* (Program Assistant), Singapore full-time; and *Herminia Francisco* (Deputy Director), Philippines, 60% time. The e-mail address for the Deputy Director has been changed to: *Hfrancisco@idrc.org.sg*.

The Director has been advising IDRC about potential programs in environmental economics in other regions. He will act as the officer responsible for IDRC's recent grant to the South Asian Network for Development and Environment Economics (SANDEE).

## **Annex 1**

### **ADVISORY COMMITTEE**

The Advisory Committee advises the Director on priorities for research and training and recommends to the Sponsors Group the annual Program of Work. The Committee consists of senior scholars and policy makers active in environmental management in Asia. A majority of the Committee's members are from Asia. Each member has a three-year term, renewable once for Asian members. The Committee meets once a year, in conjunction with the November biannual workshop. The current membership is listed below.

*Dr. Suthawan Sathirathai*, Good Governance for Social Development and the Environment Institute, Thailand

*Dr. Jikun Huang*, Chinese Centre for Agricultural Policy

*Dr. Le Quy An*, Vietnam Society for Nature Conservancy and former Vice-Minister of Science, Technology and Environment, Vietnam

*Mr. Agus Purnomo*, Pelangi Indonesia

*Dr. Myrick Freeman III*, Bowdoin College, USA

## **Annex 2**

### **SPONSORS GROUP**

The Sponsors Group of participating donors sets policy, provides financial support and approves the annual Program of Work & Budget. It comprises all donors contributing at least USD 100,000 per year. The current membership is listed below. All amounts are expressed in CAD. (Since contributions are made in the donor's currency, exact CAD equivalents may vary.)

International Development Research Centre (IDRC), Canada	\$800,000/year
Swedish International Development Agency (Sida)	\$540,000/year
Canadian International Development Agency (CIDA)	\$400,000/year

### **Annex 3**

#### **PARTICIPANTS: REGIONAL CORE COURSE IN ENVIRONMENTAL AND RESOURCE ECONOMICS**

March 29 - April 24: Chiang Mai, Thailand

01. Mr Yim Chea, Cambodia Development Resource Institute (CDRI)
02. Mr Yong Song Liao, China Institute of Water Resources & Hydropower Research
03. Mr Zhang Ju Yong, Dalian Nationalities University, China
04. Ms Jin Jianjun, University of Macau, China
05. Mr Phung Thanh Binh, University of Economics, Vietnam
06. Ms Laksmi Rachmawati, Indonesian Institute of Sciences (PPK LIPI), Indonesia
07. Ms Beri Leimona, Indonesia, World Agroforestry Centre (ICRAF)
08. Mr Erizal Jamal, c/o SEARCA House E-2 Forestry, Philippines
09. Ms Chong Chiew Kieok, Malaysia
10. Ms Maria Luisa R Soliven, Central Mindanao University, Philippines
11. Ms Georgina F. Junsay-Bordado, Camarines Sur State Agricultural College, Philippines
12. Ms Gay Defiesta, University of the Philippines in Visayas, Philippines
13. Ms Leni D Camacho, University of the Philippines at Los Banos
14. Ms Lourdes Montenegro, University of San Carlos, Philippines
15. Mr Gaminda Ganewatta, Tea Research Institute, Sri Lanka
16. Mr H M V Herath, Ministry of Environment & Natural Resources, Sri Lanka
17. Mr Widanage Rupananda, University of Ruhuna, Matara, Sri Lanka
18. Ms K M R Karunarathna, Rajarata University of Mihintale, Sri Lanka
19. Mr P P A Wasantha Athukorala, University of Peradeniya, Sri Lanka
20. Mr Prabodh Illukipitiya, Sri Lanka (PhD student, University of Hawaii, USA)
21. Ms Rawadee Jarungrattanapong, Thailand Development Research Institute (TDRI)
22. Mr Anan Wattanakuljarus, Thailand (PhD student, University of Wisconsin-Madison)
23. Ms Siriporn Kiratikrankul, Maejo University, Thailand
24. Mr Vo Thanh Danh, School of Economics & Business Administration (SEBA), Vietnam
25. Mr Nguyen Vu Huy, University of Agriculture & Forestry, Vietnam
26. Mr Truong Dang Thuy, University of Economics, Vietnam
27. Mr Vo Duc Hoang Vu, University of Economics, Vietnam