UNITED NATIONS ENVIRONMENT PROGRAMME

REGIONAL OFFICE FOR ASIA AND THE PACIFIC

REPORT OF THE SECOND NETTLAP RESOURCES DEVELOPMENT WORKSHOP FOR EDUCATION AND TRAINING AT TERTIARY LEVEL IN ENVIRONMENTAL ECONOMICS

Kathmandu, Nepal

December 6-8, 1994

NETWORK FOR ENVIRONMENTAL TRAINING
AT TERTIARY LEVEL IN ASIA AND THE PACIFIC
(*NETTLAP*)

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John E. Hay
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PREFACE

Environmental Economics is one of the keys to achieving the goal of environmentally sound and sustainable development - of both the economy and society. It is also instrumental in providing methods by which progress towards this goal can be measured, in environmental, economic and social terms. The need for such advances can be all too easily demonstrated in the Asia-Pacific region, with its widespread poverty, pervasive environmental degradation and major contrasts in quality of life and economic and social progress. Technological change, especially increased use of environmentally sound technology, substituting resources and ensuring that the full costs of environmental degradation and resource use are reflected in prices, are steps towards sustainable development.

In the Asia-Pacific region there is a substantial commitment to sustainable development. At the UN Conference on Environment and Development, or subsequently, most countries have affirmed that development must be both economically and ecologically sound. However, countries recognise there are impediments to achieving this goal, including the limited extent to which environmental considerations have been integrated into macroeconomic and sectoral policies and plans and the lack of practical guidelines and check-lists for incorporating such procedures as environmental and social impact analyses and assessments at the sectoral and project levels in policies for sustainable development.

Reflecting the global situation, UNEP has five major concerns in the area of environment and economics. These are:

- the financial implications of implementing international environmental agreement - these have been one of the major bottlenecks in negotiating such conventions;
- the additional financial resources required for funding international environmental agreements and programmes - there may be a need to restructure and rechannel existing financial resources;
- development and implementation of methods for valuing environmental goods and services;
- use of various economic instruments, such as taxes, subsidies and charges for environmental management; and
- impact of international environmental relations on environmental planning and management, including the relief and structuring of external debt of developing countries, structural adjustment programmes, commodity terms of trade, non-tariff trade barriers and conditionality of aid.

University staff and graduates will play an increasingly important role in ensuring that industry and governments are equipped to use economic principles and knowledge to, amongst other things, encourage and reward innovation, develop environmental and natural resource accounting systems at both national and enterprise levels and to move economies and societies towards the goal of sustainable development.

In the Asia-Pacific region demand for education and training in environmental economics exceeds supply. Balancing supply with demand will not be achieved unless it is first recognized as a problem and long-term strategies are implemented. It is important that

progress is based on conceptually sound economics. From this basis it is possible to adjust the mix of topics and move in a direction that suits the individual country's economic, social and cultural conditions. University staff and other similar tertiary level institutions have a comparative advantage in economic theory and environmental economics. Partnerships and cooperative programmes with industry, government agencies and international agencies, such as UNEP, can incorporate contemporary issues and provide the practical insights into environmental policy. Improving the quality of education will involve greater effort in targeting groups and using programmes that are appropriate for each group. Clearly the technology for delivering education services to university students will differ from that used train analysts in government, consulting firms and industry.

The *ultimate* target group for the outputs of this workshop is staff of tertiary institutions with responsibilities for courses in Environmental Economics. They will benefit from the curriculum guidelines, resource materials and instructional aids prepared as part of the workshop. The beneficiaries form a large and influential constituency. In addition to training and educating a large number of students who are the decision-makers and managers of the future, staff of tertiary institutions are often directly involved in advising on, and assisting with, the development and implementation of policies related to the management of the coastal zone. Staff will be encouraged to incorporate the newly acquired information and teaching methods in their regular teaching, and also in short courses offered for government and industry. Thus, despite involving only a small but key group of people in the workshop itself, the information and skills will be transferred both widely and rapidly.

The workshop is designed to encourage each successful trainer to share the very reasons for their success - the curricula they use, the resource materials, the instructional aids and the training methods. These will be reviewed by their peers at the workshop. The most appropriate materials, methods and technologies provided by individuals will be combined with those developed by collaborating international and regional agencies to form a peer reviewed and evaluated package which can subsequently be distributed to appropriate NETTLAP members, and to others who could benefit from their receipt.

On behalf of the Executive Director of the United Nations Environment Programme, Ms Elizabeth Dowdeswell, I invite you to consider this report on the Second Resources Development Workshop for Training in Environmental Economics and to use the contents to enhance the quality and relevance of related training programmes in the region. The workshop was convened by the Network for Environmental Training at Tertiary Level in Asia and the Pacific (NETTLAP), a project which receives considerable technical, administrative and financial support from UNEP's Regional Office for Asia and the Pacific and from UNEP's Environmental Education and Training and Environmental Economics Units in Nairobi, Kenya. My office expresses its appreciation to Tribhuvan University, and in particular its Centre for Economic Development and Administration, for hosting the workshop. We are also indebted to the NETTLAP staff and the Environmental Economics Thematic Network Coordinator and Nodes for their contribution to the workshop planning and implementation.

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United Nations Environment Programme
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- NETTLAP's Thematic Network Coordinator and Thematic Network Nodes for Environmental Economics

- the Economic and Social Commission for Asia and the Pacific

- the Asian Development Bank

- the numerous other individuals and organizations which made significant contributions

WORKSHOP SUMMARY

The workshop programme can be found in Annex 1 while Annex 2 provides the list of participants.

After the opening sessions (see Annex 3 and Annex 4), the workshop objectives and other background items were presented (see Annex 5)

Deborah Vohries then gave a presentation on the work programme and activities of UNEP's Environmental Economics Unit (EEU). UNEP/EEU derives its mandate directly from UNCED's Agenda 21, and the subsequent 17th Session of UNEP's Governing Council. Its activities focus on five primary areas of environmental economics: Valuation, Economic Instruments, Natural Resource Accounting, International Cooperation and Trade and Environmental Impact Assessment (EIA). In each of those areas EEU undertakes, through strategies of internal and external cooperation, capacity building and information network-developments to promote the use of economic tools, develop new methodologies for analysis and implementation/application, and build capacity. Particular emphasis is placed on developing countries and countries in transition to market economies (CITs).

With respect to EIA, EEU's specific mandate is "to develop and promote the widest possible use of EIA" with particular reference to developing countries and CIT's. In response to this mandate, UNEP/EEU convened a consultative expert group meeting in Paris in October, 1993, to determine directions for future activities. This expert group meeting identified several emerging issues for new areas of application and further development of EIA, inter alia:

- the use of EIA not only at project, but also sectoral, national and international levels (e.g. EIA of programmes policies and trade agreements);

- the use of EIA as a planning tool for sustainable development

- development of methodologies for effective incorporation of economic analysis;

- the role of public participation, transparency and independence; and

- the use of EIA throughout the project life-cycle, as a monitoring and management tool.

Therefore UNEP/EEU has developed a work programme which includes the following activities:

- holding a series of regional training workshops;

- developing an EIA Training Resource Manual, which will enable trainers to develop and produce training courses appropriate to the needs of a variety of groups and situations;

- developing an "EIA Best Practices" generic guideline document to enable decision-makers, policy-makers etc. to develop EIA guidelines appropriate to their circumstances and needs;

- jointly with the World Bank, convening a Workshop to examine the environmental impacts of structural adjustment plans (SAPs); and

- co-sponsoring the IAIA '95 conference, including presenting a session on incorporation of economic analysis and hosting an Africa pre-conference summit, with IAIA developing a compendium of country case studies with an emphasis on those that address the emerging issues.

The bilateral complementarity between the UNEP/EEU programme and the workshop was noted. It was suggested that the workshop proceedings will provide valuable input to the EEU activities, such as the Training Resource Manual and Case Study Compendium. These will in turn provide valuable input to the next NETTLAP Workshop.

The remainder of the workshop was conducted as a series of modules.

Module I: Environmental Economics and Sustainable Development

The module was moderated by **Prof. Pushkar Bajracharya**, Executive Director of CEDA, and NETTLAP Thematic Network Node. In his opening remarks Prof. Pushkar emphasized the need for clear thinking among environmental economists in their roles in promoting sustainable development. He said that this would affect their ability to transfer knowledge to others in this field.

The keynote presentation was given by **Mr. Rajendra Shrestha** of CEDA on the topic of "Environmental Impact Assessment and Sustainable Development: Theory and Practice". His paper briefly reviewed current thinking in the environmental field with regard to the use of environmental economics and impact assessment. Approaches for measuring changes in social welfare as the result of development were also reviewed. The development of environmental policy and application of environmental impact assessment in Nepal was used to illustrate the challenges facing both policy analysts and educators in promoting useful tools for improved policy, programme and project design and implementation.

The supporting paper in this session was presented by **Dr. Sharad Sharma**, of the Economics Faculty at Tribhuvan University, Nepal. He reviewed some of the key relationships between development and environmental change and argued for incorporation of environmental considerations into all levels of economic planning and decision-making. He gave several examples of current efforts to do this in macroeconomic planning, sectoral policy development and project evaluation. Some issues of environment and development specific to the Asia-Pacific region were also reviewed.

Discussion/Conclusion

Several key points were raised during discussions. These helped guide the remainder of the workshop's programme:

1. It is not always easy to express clear relationships between the analytical methods represented by environmental economics versus environmental impact assessment.

2. Particular attention must be paid to the relationships between poverty and environment in developing countries.

3. In teaching environmental economics, it is best to begin with an "accepted" approach or theory and then expand materials and discussion to illustrate alternative and critical perspectives.

4. In both teaching and research it is best to exercise caution not to give too much emphasis on non-market valuation techniques at the expense of market based valuation.

5. There are special problems presented by developing countries with large non-monetized economies, and techniques appropriate to those circumstances should be developed and taught.

6. Special problems arise in many forms of environmental economics training since many disciplines are often represented in the audience; care and time should be taken to find commonly understood language and concepts.

7. As there is a wide range of issues addressed by environmental economics - from micro-level to macro-level - it would be useful for the workshop to agree on current key applications and topics for tertiary training.

Module II: Training Methods; UNEP's Environmental Training Policy and Activities

Prof. John Hay, NETTLAP Coordinator, reviewed various methods applicable to environmental training in tertiary institutions. The methods covered are listed in Annex 6.

The concluding part of the module was facilitated by **Mr. Mahesh Pradhan**, NETTLAP Project Officer. He described UNEP's training policies, activities and support strategies. The training policy and activities are designed to promote the implementation of UNEP's general policy - to promote sustainable development. Training is designed to enhance the capabilities of countries, particularly developing countries, to deal with their environmental concerns. As a general rule, UNEP's training is expected to produce a multiplier effect in the trainee's country. Environmental training has two basic forms - generalized and specialized. General training attempts to build awareness of the environment as a whole and to develop individual capabilities to deal with environmental concerns. The target groups includes policy-makers and decision-makers, administrators and planners; engineers, architects; industrialists; trade unionists; and agriculturalists. Within UNEP the

Environmental Education and Training Unit (EETU) is responsible for general environmental training and for the coordination of all specialized training activities in-house.

Specialized training seeks to develop the problem-solving capabilities of professionals and to enable them to work on specific environmental issues and problems. Within UNEP sub-programmes are responsible for this category of training. Specialized training is primarily for those occupational, discipline or social groups whose activity or influence have an important bearing on the environment. Examples are biologists, toxicologists, social scientists, environmental economists and sanitary engineers.

UNEP provides funds for modest projects in environmental education and training. This is done through the Small Windows Project (see Annex 7 for details).

Module III: Environmental Economics and Environmental Impact Assessment

The keynote paper by **David McCauley**, "Environmental Economics and Environmental Impact Assessment: Seeking Complementarity" reviewed the application of conventional economic analysis (i.e. neo-classical approach), environmental economics, and environmental impact assessment at four levels:

(a) Global
(b) National (Macro-economic)
(c) Sectoral
(d) Sub-sectoral/project

He pointed out that there is some logical progression from conventional economic analysis to environmental economics on each of the four levels. For example, at the global or international level, environmental economics looks at extended cost-benefit analysis, law and trade issues. At the national level it addresses growth and the environment, structural adjustment programmes (SAPS), etc.

However, difficulties arise with the application of Environmental Impact Assessment (EIA). EIA is a tool developed for use at the project level, whereas it should include some environmental economic analysis (e.g. CBA, valuation). The concern is that EIA is used as a regulatory mechanism, which may not be appropriate at national and international level. Environmental economic analysis within the framework of EIA is performed by different groups. Perhaps the Environmental Economists are more appropriate at the national/international level. Environmental Economics and EIA should not be "competing".

The main training implication is that surveys are needed to determine what should be done, where, how and by whom.

The second paper, "Learning by Doing: Teaching Contingent Valuation" by **Dr. Muraleendharan** described a methodology for teaching contingent valuation by guiding students through a real life exercise. It incorporates all aspects of performing the exercise through providing background on the technique, selecting an appropriate issue, preparing the questionnaire, interviewer training, sample selection, field work, statistical analysis, report writing and feedback.

Although the technique requires significant input in terms of financial resources and preparation by the presenter, given those resources it can be an extremely effective teaching method.

Discussion/Conclusion

1. A point was raised concerning the use of conventional cost-benefit analysis, extended to incorporate environmental considerations. There is a need for methodological development in incorporating economic analysis into the EIA process.

2. There is confusion of terminology over the use of EIA and Environmental Economics at national, international and sectoral level.

3. The field is less well developed at national and international level. At all three levels training should focus on building awareness of existing research, reviewing existing literature, and suggested opportunities for further research, especially for postgraduate students.

4. There is a need to broaden application of valuation techniques, and a need to develop adaptation methodologies.

5. The question of how to incorporate sectoral analysis was raised. It was suggested that this would require a course/module of its own, e.g. techniques for evaluating environmental impacts of sectoral activities.

Module IV: Economic Analysis of Environmental Law and Policy Instruments

The session commenced with a keynote presentation by **Dr. Hidenori Niizawa** on "Economic Analysis of Environmental Law: A Case Study of Japanese Environmental Regulation and its Enforcement". The paper stressed the need for environmental laws and described the Japanese Environmental Regulations and their enforcement. The regulations of Japan are very applicable in the newly industrialized countries and other Asian countries also, but there is a matter of cost involvement. The paper stressed that in terms of monitoring and enforcement laws in Japan at present there are 42,000 Pollution Control Agreements - the number is increasing day by day. The author noted that due to such environmental regulations total waste production has decreased, but the cause of the decrease is not only due to those environmental laws. There are other factors also.

In other Asian countries there is an initial need for an "Administrative Guidance and Pollution Control Agreement". For this the Government must be prepared for effective enforcement. In many of the developing countries, though, there are many laws but strict enforcement is not easy for various reasons.

Comments on this keynote presentation from participants included: 1) inclusion of the environmental law and its teaching methodologies; 2) the application of Japanese law may not be equally applicable in other countries - in developing countries corruption might play some role; 3) the acceptable level of chemical waste and other by-products may be different

from country to country; and 4) there is a need for strict government regulation, and the level of wastage has to be reported as in case of China.

The second paper of the module was presented by **Mr. Rabin Lal Shrestha** on a "Case Study on Environmental Assessment of Solid Waste Management in Nepal". The paper dealt with sustainable development, environment and economics. Students should be made aware of worst, bad, good, better and best examples. Application of good is better than worst, if the application of best is not possible. So, there is a need of something to be done.

While presenting his paper Mr Shrestha stressed that students need to be aware of the cultural environment when undertaking Environmental Impact Assessment (EIA). In fact, environmental management should not be overly ambitious as it cannot change the situation in a single day. Knowledge can be imparted on "resource recovery" through "service charge" (e.g polluter tax). That is, income generation to control the pollution and the implementation process should be part of environment management.

The management of "waste" has to encompass different levels and different sectors with different capabilities. Hence the training program needs to be conducted at various levels and according to the target groups. However the problem in Nepal is the standardization of wastage levels - the bottom line is the need for action.

The main issues raised in discussion of the preceding paper were: 1) the role of private companies in the waste management; 2) efficiency or inefficiency of local bodies like "municipalities" in waste management; 3) need for legislation, but in the case of Nepal there is legislation which impedes recycling, as a result of which recycling is not legal.

The third paper was presented by **Dr. A. Damodaran** on "Investing in Clean Technology". The main thrusts of this paper were the importance of "cleaner technology" and "investment criteria" in the Asian countries. The issues raised in the paper were all appropriate for incorporation in training programmes. The paper also emphasized linkages between "Clean Technology" and EIA processes. The paper stressed that EIA should not be limited to specific projects only. In the Asian context the author recommended a compromise between these two situations, according to the carrying capacity of the zone or a nation.

In the subjects of investment theory and issues of cleaner technology the paper indicated that the concept of clean technology is to reduce pollution, minimize waste, re-use industrial by-products and recycle waste materials. A fundamental economic issue is the technological choice for the environmental protection. For the government the major issue is the institutional ability, regulation and standards set for investment in clean technologies. The difference between the Asian countries and European countries in this respect need to be emphasized in the curricula and the teaching methodologies.

Dr. Damodaran also mentioned methodologies for teaching, such as "Trainee Category" and "Mode of Teaching" but he did not elaborate about the teaching methodology. However, the paper did identify issues which need to be incorporated in training programmes.

The paper concluded that investment in clean technology is a crucial topic to the policy makers, industrialist, EIA authorities, researchers, NGO and local people. They must all five this matter their attention. In pollution law, Asian countries, except Japan, have not tested economic instruments such as pollution taxes, deposit-refund systems or product charges, to effect pollution abatement and so on.

Legislation is one matter - effective enforcement is another problem. However, the main thrust of the environmental education should be that cost of production increases due to environmental laws only in the short-run. They are cost effective in the long-run.

With respect to this paper, issues raised by participants included : 1) the "Clean Technology" theme is attractive to teach and of interest to students but is not easy to apply practically; 2) "Clean Technology" is, in fact, more economical than one might expect; 3) there is no consensus regarding regulatory emission control standards; 4) achievement of standards may not be difficult if there is ample water available and water charges are not high; and 5) the colour of pollution discharges is often more offensive than other kinds of pollution.

Module V: Incorporation of Socio-economic Analysis into Environmental Impact Assessment

The session was started with keynote presentation by **Dr Khalid Abdul Rahim** on "Incorporation of Socioeconomic Studies in Environmental Impact Assessment". He justified the need for socio-economic studies in the public investment projects and he raised an issue regarding maximisation of benefit and minimization of adverse environmental impacts. Social cost benefit analysis as tool for maximization of benefit should be well integrated with EIA in order to arrive at an optimum solution. Speaking on EIA, he said that guidelines tend to be accepted as a public document while cost benefit analysis is taken as a classified document. He also addressed the four major dimensions of environment - physical, social, aesthetic and economic issues - and on the nature and types of information required and methods for generating this information for the socio-economic study. His major focus was on the survey technique in generating the necessary information.

Socio-economic studies are multifaceted and complex. It can be a study by itself. However, socio-economic studies can be designed to suit various purposes. Socio-economic studies incorporated into EIA consists of analyses and predictions on the changes in the physical, social, aesthetic and economic environment. The types of socio-economic impacts which generally could be expected to occur when implementing a particular project are illustrated. The basic steps in carrying out the socio-economic impact assessment are described in the paper. Socio-economic impact studies require a social survey to be conducted. The paper outlines the necessary steps in conducting a survey as a technique in information gathering.

The paper stressed that EIA and socio-economic studies may be two separate undertakings. While there is still a popular belief that EIA concerns only the bio-physical, international known EIA guidelines now incorporate some coverage of the socio-economic component, although the process of integration is not yet complete.

Commenting on this keynote presentation, **Prof. John Hay** raised the issue of practicable methods for incorporating procedures of socio-economic analysis into EIA. Dr. Huber raised the problem of putting a value on attitudinal values, social change and other qualitative changes. Other issues raised included giving weight to the environment and cost benefit approaches.

The keynote presentation was followed by the two papers: one was on "Market and No-market Valuation of Environmental Goods and Services" by Mr. Kamar Ali of Bangladesh and "Macro Economic Study of Pakistan" by Dr. Haroon Jamal. **Mr. Kamar Ali** presented a theoretical overview of various market and non-market valuation of methods. He mentioned that marketable goods could be measured by the willingness to pay and consumer surplus. In the case of non-market goods he reviewed the Hedonic Price method for air and noise pollution and the variables to be included in the model.

Similarly, he described the travel cost method for valuing the demand for recreational facilities and other methods such as the defensive expenditure method, contingent valuation methods - and their assumptions and limitations.

The provided an overview of a range of market and non-market valuation techniques for environmental goods and services. While description of the methods was the main contribution, issues related to the theoretical shortcomings and practicality are also mentioned. The Hedonic Price Method, the Travel Cost Method, the Defensive Expenditure Method, the Dose-Response Relationship and the Contingent Valuation Method were discussed.

The presentation acknowledged that, despite theoretical improvements in the valuation techniques, none could be generally accepted. Each technique is applicable in its own area of analysis. However, the Contingent Valuation method is most attractive since its application is wider for *ex ante* and *ex post* analysis. Another attraction of this method is its ability to generate information on option value and existence value.

The second paper was presented by **Mr. Haroon Jamal** of Pakistan on "Economic Reforms and Environment in Pakistan". The paper was a summary version of a report by the Applied Economics Research Centre (AREC) of the University of Karachi to relate macroeconomic policies to environmental issues in Pakistan. In the course of structural adjustment Pakistan has suffered extensive environmental degradation in relatively short period.

The paper was organised in three sections - the first described the events related to economic reforms and the state of the environment. The second section presented the results of three studies on the relationship between structural adjustment and the environment and the final section summarized the findings and policy implications pertinent to economic reforms.

The presentation mainly focused on the methodology of the study. He explained the simple growth model and the computer generated equilibrium model and their findings. The simple growth model study used GNP, savings and population to find out the turning point at which the environmental degradation starts. The study shows the impacts of various

policy reforms on GDP and sectoral output and the impact of reforms on the ground water balance under different scenarios.

An issue raised from the floor by Dr. Damodaran was how the economic reforms could be done along with a cut in public investment. Some of the suggestions put forward from the floor were inclusion of land degradation variables and methodologies to use as the case studies in the class room and training environment.

Discussion

The main issue on the incorporation of socio-economic studies into EIA focuses on the objectives of the two groups involved. Scientists advocate the need to protect the environment, wildlife, flora and fauna and developed EIA as a tool in designing protective measures. Economists believe that the environment is a resource that can be utilized in an efficient manner to satisfy human needs and wants. Thus, the environment is rather seen as a constraint in the objective of maximising welfare. Given this framework, it is useful to incorporate environmental considerations into the calculations of extended cost and benefit analysis. However, with the growing global concerns on the environment, EIA is taken to be of paramount importance. Yet, the integration of socio-economic components is not yet complete as valuation of environmental resources is not fully understood by scientists. As a result, socio-economic studies are undertaken by researchers not directly linked to the team of EIA researchers.

EIA and socio-economic studies are both seen appropriate at project levels. Both should be carried out to take stocks, predict and mitigate adverse impacts within an ecosystem. At the national and international levels EIA and socio-economic studies can be very complex as they involve a wider range of heterogeneity of ecosystem and human population.

Thus Module IV built upon the framework set up in Module II on the interlinkages between economic analysis and environmental impact assessment. This module focused on the microeconomic aspect at project level and macroeconomic aspects within the framework of Structural Adjustment. The keynote presentation addressed the disparity in the objective function or goals of economic analysis and the EIA. While economists perceive the goal as one of maximising welfare of people subject to the environment as one of the constraints, EIA advocates the idea of minimizing environmental impacts with "people" as one of the several constraints. Integrating one into another is possible and has been practised, but the question of which should be superior to another is subject to debate and consensus. Socio-economic studies are undertaken at project level to quantify the physical, social, aesthetic and economic base dimensions of the environment. Often, socio-economic studies are politically motivated. Socio-economic studies provide decision makers information on the state of welfare at a particular point of time. Incorporation of socio-economic studies into EIA will require some predictions on the changes of the state of welfare that will occur prior to, during and after project implementation.

Valuation of environmental parameters are the most difficult task. Though with some imperfection, techniques are available on how to value environmental resources at the micro level, the most common being the contingent valuation method (CVM). At the macro level

competitive general equilibrium (CGE) models are used to incorporate environmental factors and these are found to be useful in their applications.

Module VI : Incorporating Environmental Considerations into Trade, Investment and Development Policy

In her keynote presentation **Ms Deborah Vohries** proposed a framework for a training programme to incorporate environmental considerations within a Structural Adjustment Programme (SAP). The basic programme can be organised into five sections. The first section describes the need to understand the basic background of SAP. This includes the understanding of the components of SAP such as free market structure, trade liberalization, role of government, etc. The second section deals with exploring the linkages between SAP and EIA through the use of economic instruments. The third section is the identification of gaps in implementation. The training programme is best supported by case studies which is grouped in the fourth section. Finally, how to design a better policy constitutes the fifth section of the training programme.

In exploring the linkages between SAP and EIA the most fundamental issue is the incompatibility of objectives. The goals of each programme have to be clearly understood in order to incorporate environmental considerations into SAP. In implementing SAP and EIA, it is recognized that both are politically sensitive. Implementing the programmes may result in some gainers and losers.

The next paper in the module, "Structural Adjustment, the Environment, Sustainable Development and Environmental Accounting" by **Dr. A.M.A. Rahim** of Bangladesh outlined the rationale of Structural Adjustment Policies (SAPs) in achieving efficiency in the allocation of resources. Price policy reforms and reliance on market forces are the most important component of SAP. The role of government is thus limited to facilitating market operations and one which intervenes in the case of market failures.

The environmental problems in Bangladesh stem from the lack of development including inadequate sanitation, clean water, etc. Although committed to the protection of the environment the tools of environmental economics in guiding decision making are inaccessible. The Government Planning Commission uses the conventional cost-benefit analysis in evaluating development projects.

A case study on an irrigation project was presented in the paper. Many reports and articles revealed the negative environmental and socio-economic impacts from the project. In assessing the scale of the problem, an EIA revealed that had environmental impacts of the project considered during the initial appraisal, the project would not have been justified.

The next paper, "Environmental Implications of Restructuring National Economies and Environmental Impact Assessment" by **Mrs. A. Saule** of Mongolia was organized to describe the structure of the Mongolian economy in transition from agro-based to industrial economy. Major environmental problems in the form of losses of flora and fauna and pasture land degradation were experienced. In the transition from subsistence to cash economy and from centrally planned to market economy Mongolia adopted several economic

incentives regarding the environment including economic valuation of all natural resources, national action plan for the environment, and natural resources exploitation permit and fines system.

The EIA concept in Mongolia can be dated back to 1987 when the Ecological Expertise Procedure is used to complete environmental reviews of projects. However, the approach differs with EIA in the sense that EIA is carried out at an earlier stage in the project planning and allows for modification in the designs or alternatives. Recognizing the importance of EIA, the Mongolian government passed the Environmental Impact Assessment Regulation which provides the legal basis in implementing the Mongolian Environmental Impact Assessment Procedure.

The paper "Environmental Implications of Restructuring National Economies" by **Dr. Bhuban Bajracharya** of Nepal reviewed issues on resources use in a subsistence economy. In the process of development, traditional societies are brought to the main stream of economics with changes in the values including the manner in which resources are used.

The most interesting approach in forest and irrigation management in Nepal is the community-based management system. When community managed common resources are brought under state control, further resource depletion are observed. Thus, community managed seemed to be one effective system to use the resource in a sustainable manner. Under the community management system, the communities define the norms for the use of resources themselves. Environmental problems may emerged from the lack of defined property rights. In this respect, the role of government should be recognized.

The last paper in the module was present by **Dr. Binod Karmacharya** of Nepal with the title "Trade and Domestic Environment: A Case of Woollen Carpets in Nepal". The paper overviewed the growth of the carpet industry in Nepal. Factors related to various policy reforms such as the exchange rate policy and trade and industrial policy seem to contribute to the growth of the carpet industry.

In the course of expanding the carpet industry, environmental problems in the form of water pollution became imminent. As carpet industry is associated with free trade regime it is believed that environmental problems from the industry are demand-driven. The author believes that instead of restricting trade, second best solution calls for government intervention in the form of legislating enforceable environmental policy.

Discussion

Conceptually, environmental regulation may result in increased cost of production and leads to the loss of competitiveness, no supporting empirical evidence are available. Perhaps, many studies showed that the incremental cost of pollution abatement are insignificant. Industries complaint about cost increases, but studies showed that cost increases are in the form of fixed costs or the investment costs. Lessons from several studies showed that through changes in technology for abatement the cost of production including the internalization cost may not increase significantly and, depending on the structure of the input market, backward incidence of pollution control may result. Thus, effective pollution control may not necessarily be burdensome to industries engaged in international trade.

In the wake of globalisation of economy countries are moving towards more market-oriented, some are in transition from directly from centrally planned economies. In the structural adjustment programmes, the role of government should be market-friendly and as facilitators of market operations. Implementing SAP and free trade regime without environmental considerations results in negative environmental externalities as cases in Pakistan, Bangladesh and Nepal demonstrated. In the free market regime producers compete in producing goods at least cost disregarding their impacts on the environment. A strong environmental policy with market incentives seem to be the most efficient way of controlling environmental degradation. A second-best solution is desirable when market-based incentives are not workable although command-and-control approach in the form of stringent environmental regulations may distort the functions of free market. Command-and-control, if carried out with care and dedication is a cost-effective way of achieving the desired goal.

Investing in cleaner technology or end-of-pipe solution to environmental problems entails additional cost to the industry. In the international trade issue of pollution control, industries fear that stringent measures imposed may lead to loss of competitiveness.

Module VII: Training, Curriculum Content and Course Planning

The keynote paper by **Prof. John Hay** titled "Course Design and Development was divided into 8 sections (see Annex 8 for further details):

1. Liaison with University authorities.
2. Research into the teaching material, including quality control.
3. Production of lecture and study note and other materials.
4. Practical session selection, case studies and training.
5. Promotion of the programme.
6. Selection and enrolment of students.
7. Student liaison issues.
8. Student and staff assessment.

The material presented was offered more as a series of guidelines, rather than a checklist, and as such was meant to promote a comprehensive and strategic approach to curriculum development and implementation. The suggestions under the above headings should be adapted to suit specific needs.

The paper by **Dr. Majid Makhdoom**, "Curriculum Guidelines for an MSc. in Environmental Economics", noted the following premise: According to traditional knowledge environment is a composite asset. Use of the environment and resources has positive impacts - (1) amenities and (2) Services, and negative impacts (1) waste and (2) degradation. Waste can be measured through cost/benefit (CB) and Cost Effective (CE) analysis but for degradation impact analysis is needed. The environmental economist should thus combine the knowledge of economics & ecology.

A course which addresses these points will have two components:

(a) Probationary courses - 20 credit (11 environment & 9 economic).

36 credit hour main course comprising of:

Tools and foundation course	22 credits
Linkage (EE & EIA)	4 ,,
EE	4 ,,
Thesis	6 ,,

This is taken as a three year Masters course. Methods used include: (a) Lecture; (b) Case Study; and (c) Field Visits.

Dr. H. Kotagama's paper, "Experience of Sri Lanka with Environmental Economics & Resource Management", discussed how the development equation for Sri Lanka has changed from growth & equity to growth, equity and environment. One response of relevance is enactment of environmental legislation. There is both a felt need and a forced need for environmental education. These needs were first addressed by NGOs and then by government. Current examples are such courses as environmental engineering, environmental communication, environmental social science, and environmental science and wildlife management. All are Masters programmes. Other tertiary level programmes also exist.

The presentation then went on to relate the experience of initiating and implementing the Social Science programme at the University of Peradeniya in Sri Lanka. This includes post graduate programmes in both Environmental Economics and Natural Resource Management.

Initiation was based on the felt need, and involved government, faculty, students, institutes and NAREP. The process took nearly three years. With implementation, selecting an institute is difficult. Curriculum objectives were based on the needs of target groups. The total programme covers four terms. There are compulsory and elective courses. These attract people from different backgrounds. Elective courses are taken based on consultations with the faculty. There is also a 3 credit practicum. This is a compulsory course. The econometric 'bias' is due to faculty interests. Even in ecology students with a mathematical background find that the course is easier. Political environmental economics may also be required. But Sri Lanka has emphasised sociological courses.

Discussion and Conclusions

It was noted that the presentation on curriculum content and course planning exhibits what can be done in this respect, but often is not. The guidelines also provide a basis for comparison and for developing useful contacts. Field visits exist as a part of the Environmental Economics course in Sri Lanka. The problem is how to evaluate the field visit. Also, is it necessary to have field visit as a separate part or for it to be integrated with the main course? Further, slow attrition is taking place due to budgetary constraints affecting the ability to make field visits. Therefore, a separate course may be logistically desirable. But pedagogically, integration would be much better.

The participants also discussed whether awareness is important or analytical ability paramount at postgraduate level. It was felt that at postgraduate level skills would be more important, but the reverse would be the case at the undergraduate level.

Dr. Majid was asked why he proposed a 3 year course. He noted that it was an interdisciplinary course and hence students tend to receive higher income after completing the course. Hence a longer period of training is warranted. He noted that the course he offers is heavily subscribed, despite the three year duration. This lead to a comparison between payment made by students and other sources of income for the programme. Dr Majid was also asked about the coverage of economics - where both micro and macro issues addressed. He noted that it was a combination of the two.

In response to a question, Dr. Kotagama noted that administrative flexibility is needed to launch a course such as he described. This suggests a somewhat autonomous body. Course flexibility is also needed in order to incorporate new areas. In Sri Lanka students can take up to 15 credits each term.

He also stated that students are not sponsored by organizations but are self supported. He reported that the course is progressing very well - he has been able to convert students from emotional greens to rational economists. Additional advice was offered in response to questions: insight has to be given by giving information in as simplistic manner as far as possible; and communication is also important, especially to communicate to politicians. Decisions are also taken by senior bureaucrats, assisted by environmental engineers, analysed by policy analysts, educators and public at large. Hence attention should be paid towards them also and not just limited to politicians.

Discussion then moved on to the possibility of using computers at tertiary level. Is it possible to bring computing into NETTLAP, as along term vision? Is computer-based learning useful in Environmental Economics? Participants noted that such academic programmes are being described, including presentations at interdisciplinary conferences. Lectures are involving computer-based demonstrations. Use of CD-ROM is also increasing. For developing countries these innovations are longterm as the problem is the implementation gap. The access to computers is currently very limited. But it was noted that in Nepal computer training centres are abundant and computers are even being used at school level. Finally, it was suggested that a future workshop should try to solve practical problems, such as spending an entire day looking at EIA.

Concluding Session

The last formal session of the workshop was facilitated by Prof. John Hay. Part of the session involved each participant making personal pledge as to activities they would undertake as a follow-up to the workshop. The written pledges are to be found in Annex 9.

In the session there were also further discussions regarding future training, including a review of the intentions within the NETTLAP project. The session also provided an opportunity for informal oral feedback by workshop participants.

This was a prelude to the completion of the formal written evaluation. Each participant completed a formal evaluation questionnaire at the conclusion of each day and submitted their response during or immediately after the final session. The questionnaire was designed to assess participants' expectations of and experiences in the various aspects of the workshop programme and activities.

For each question the quantitative responses have been aggregated and the resulting data presented as a series of graphs (Figs. 10.1 through 10.15). The left hand diagram in each figure indicates whether participants felt that the session or activity was above or below their expectations. This information was derived from the individual responses to a request for each participant to indicate the extent to which they expected the session or activity to be relevant and then score the actual experience. Thus the expectation and experience responses are scored directly, while the information on whether the session or activity was above or below expectations is derived from the differences between these two responses. This relative information may thus reflect more correctly the actual opinions of the participants.

The reactions of participants to other aspects of workshop organization and implementation are also available via the questionnaire.

A summary of the responses follows (a full analysis is presented in Annex 10):

The overall programme and workshop activities were given a high score by most participants. The majority felt that the workshop exceeded their expectations, often by a substantial margin. The keynote presentations reached or exceeded the expectations of most participants. They scored highly in terms of relevance, practicality and usefulness.

While the presentations by participants from countries in South and Central Asia scored well in terms of relevance, usefulness and practical nature, many of the participants felt that the presentations did not fulfil their expectations. The materials made available at the workshop were generally considered to be relevant, useful and practical. As a whole, the workshop participants were divided as to whether or not the materials supplied exceeded expectations.

For most of the participants the new approaches and skills presented at the workshop exceeded expectations. They were seen to be relevant, useful and practical, or better. Most of the participants also considered that the workshop made a useful, relevant and practical impact on their future activities in environmental training and education. In this respect the workshop generally exceeded expectations.

Overall, the participants felt that the workshop had been well organised. For most the workshop organisation exceeded their expectations. This positive feedback is confirmed by the responses tabulated in Table 1.

Workshop Closure

A list of documents distributed or displayed at the workshop is provided as Annex 11.

The workshop closed with brief speeches by Prof. Pushkar Bajracharya, Mr Rajendra Shrestha and by Prof. John Hay. Each expressed positive comments as to the workshop achievements and thanks to those responsible for its success.

Table 1

Number of Participants Indicating given Response in each Category.

	Excellent	Satisfactory	Fair	Poor	Very Bad	No Response
Pre Workshop Planning/Liaison	6	5	4	1	0	1
Travel Arrangements	5	3	2	0	0	7
Meeting Facilities	8	7	0	0	0	2
Quality of catering/food etc	6	9	0	0	0	2
Assistance given by UNEP/ROAP staff	8	5	0	0	0	4
Assistance given by Kathmandu staff	10	4	0	0	0	3

WORKSHOP PROGRAMME **ANNEX 1**

UNEP/NETTLAP

RESOURCES DEVELOPMENT WORKSHOP FOR ENVIRONMENTAL ECONOMICS (EE) TRAINING

Kathmandu, Nepal, December 6 - 8, 1994

DAY 1: Tuesday, December 6

0800 **Registration and Administration**

Informal Welcome, Introductions, and Background Information

0845 Informal Welcome
Prof. Pushkar Bajracharya, NETTLAP TNN and Executive Director, CEDA, Tribhuvan University, Kathmandu, Nepal

0900 Workshop Objectives, Approach, Content and Outcomes; NETTLAP
Prof. John Hay, NETTLAP Coordinator, UNEP/ROAP, Bangkok, Thailand

0930 UNEP/EEU's Work Programme and Activities
Ms Deborah Vohries, UNEP/EEU, Nairobi, Kenya

1000 Brief Introductions
Workshop Participants

1030 Morning Tea

1100 Assemble for **Inauguration of Workshop**
His Royal Highness the Crown Prince of Nepal

1245 **Module 1:**
Environmental Economics and Sustainable Development
Prof. Pushkar Bajracharya, NETTLAP TNN, Kathmandu, Nepal (Module Moderator)

Keynote Presentation: Environmental Impact Assessment and Sustainable Development - Theory and Practice (Mr Rajendra Shrestha, NETTLAP TNN, Kathmandu, Nepal)

1315 Lunch

1415 Role of Economics in Environmentally Sound and Sustainable Development in Asia and the Pacific - Dr Sharad Sharma, Nepal

1445 **Discussion and Training Implications** *(Dr D. McCauley, Rapporteur)*

1515 Afternoon Tea

1545 **Training Methods**
Prof. John Hay, NETTLAP Coordinator (Facilitator)

1630 **UNEP's Activities in, and Support for, Environmental Training**
Mr Mahesh Pradhan, NETTLAP Project Officer, UNEP/ROAP, Bangkok, Thailand

1700 **Day 1 Evaluation and Close**

DAY 2: Wednesday, December 7

0830 **Module II:**
Environmental Economics and Environmental Impact Assessment

Dr David McCauley, Natural Resources and Environmental Policy Project, Colombo, Sri Lanka (Module Moderator)

Keynote Presentation: Roles of Economics in Environmental Impact Assessment

0900 Market and Non-Market Valuation Methods for Environmental Goods and Services - Dr Muraleendharan T. R., India

0930 **Discussion and Training Implications** *(Ms Deborah Vohries, Rapporteur)*

1000 Morning Tea

1030 **Module III:**
Economic Analysis of Environmental Law and Policy Instruments
Dr Hidenori Niizawa, NETTLAP TNN, Osaka, Japan (Module Moderator)

Keynote Presentation: Economic Analysis of Environmental Law: A Case Study of Japanese Environmental Regulation and its Enforcement

1100 Case Study on Environmental Assessment of Solid Waste Management in Nepal - Mr Rabin Lal Shrestha, Nepal

1130 Investing in Clean Technology - Dr A. Damodaran, India

1200 **Discussion and Training Implications** *(Dr Narendra Kayastha, Rapporteur)*

1230 Lunch

1330 **Module IV:**
Incorporation of Socio-economic Analysis into Environmental Impact Assessment (EIA)
Dr Khalid Abdul Rahim (Module Moderator)

Keynote Presentation: Incorporation of Socio-economic Studies in Environmental Impact Assessment (EIA)

1400 Market and Non-Market Valuation Methods for Environmental Goods and Services - Mr Kamar Ali, Bangladesh

1430 Economic Reforms and the Environment in Pakistan - Mr Haroon Jamal, Pakistan

1500 **Discussion and Training Implications** *(Dr Rajendra Shrestha, Rapporteur)*
Afternoon Tea

1525 **Day 2 Evaluation and Close**

1530 Field Visit and City Tour

DAY 3, Thursday, December 8

0830 **Module V: Incorporating Environmental Considerations into Trade, Investment and Development Policy**
Ms Deborah Vohries, UNEP/EEU, Nairobi, Kenya (Module Moderator)

Keynote Presentation: Environmental Impact Assessment as a Tool for Incorporating Environmental Considerations in Trade, Investment and Development Policy

0900 Environmental and Natural Resource Accounting - Mr A.M.A. Rahim, Bangladesh

0930 Environmental Implications of Restructuring National Economies - Mrs A. Saule, Mongolia

1000 Morning Tea

1030 Environmental Implications of Restructuring National Economies - Dr Bhuban Bajracharya, Nepal

1100 Trade and Environment: Implications for Nepal - Dr Binod Karmacharya, Nepal

1130 **Discussion and Training Implications** *(Dr Khalid Abdul Rahim, Rapporteur)*

1200 Lunch

1300 **Module VI:**
Training, Curriculum Content and Course Planning
Prof. John Hay, NETTLAP Coordinator, Bangkok, Thailand (Module Moderator)

Keynote Presentation: Course Planning and Implementation

1330 Curriculum Guidelines for an MSc in Environmental Economics - Dr Majid Makhdoom, Iran

1400 Experience of Sri Lanka with Environmental Economics and Resource Management Curricula - Dr H.B. Kotagama, Sri Lanka

1430 **Discussion and Afternoon Tea** *(Dr Hidenori Niizawa, Rapporteur)*

1530 **Concluding Session**
Prof. John Hay, NETTLAP Coordinator (Facilitator)

Follow-up Activities: Personal and Collective
Feedback

1615 **Workshop Evaluation - Day 3 and Overall**
Prof. John Hay, NETTLAP Coordinator (Facilitator)

1700 **Workshop Close**

Inaugural Programme
on
NETTLAP Training & Resources
Development Workshop on Environmental Economics

Venue: Blue Star Hotel
Date: December 6, 1994

Chief Guest : ***His Royal Highness Crown Prince Dipendra Bir Bikram Shah Dev***

Chairman : Mr. Kedar Bhakta Mathema
Vice Chancellor, Tribhuvan University

11:30 Arrival of **HRH the Crown Prince** at the Hotel

11:32 Arrival of the **HRH the Crown Prince** at the Dias

11:32 Announcement of the Inaugural Programme by the Master of the Ceremony, Mr. Narendra Kayastha

Presentation of the Inaugural and Workshop Programmes to **HRH the Crown Prince** by Mr. Rajendra Prasad Shrestha, Workshop Coordinator

11:33 Welcome Speech by Dr. Bhuvan Bajracharya, CEDA

11:38 Inauguration of the Workshop by **HRH the Crown Prince** to be requested by Chairman

11:39 Inauguration of the Workshop by lighting the Traditional Lamp by **HRH the Crown Prince**

11:41 Introduction on the NETTLAP Activities and Workshop by Dr. John Hay, NETTLAP Coordinator

11:47 Key Address by Dr. Suvit Yodmani, UNEP Director and Regional Representative for Asia and the Pacific

11:56 Few words by Hon. Mod Nath Prashrit, Minister for Education, Culture and Social Welfare

12:02 Remarks by the Chairman

12:08 Vote of thanks by Mr. Rajendra Shrestha, Workshop Coordinator

12:13 Group Photo of the Participants, Observers and the Organizers with **HRH the Crown Prince**

12:17 Audience to the Participants, Observers and the Organizers

R E F R E S H M E N T S

ANNEX 2

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Sushil Bajracharya	:	Secretary
Surbe Shanytang	:	Driver
Man Bahadur Rai	:	Driver
Sanukaji Shrestha	:	Office Boy

ANNEX 3

OPENING ADDRESS

Dr Suvit Yodmani

Regional Director and Representative
Regional Office for Asia and the Pacific
United Nations Environment Programme
Bangkok, Thailand

Your Royal Highness, Your Excellency the Prime Minister, Your Excellency the Minister of Education, Mr Chairman the Vice Chancellor of Tribhuvan University, Excellencies, Distinguished Guests, Workshop Participants, Ladies and Gentlemen.

I would like to express my heart-felt appreciation to Your Royal Highness for graciously consenting to inaugurate this important workshop in Environmental Economics.

On behalf of the Executive Director of the United Nations Environment Programme, Ms Elizabeth Dowdeswell and on behalf of UNEP's Regional Office for Asia and the Pacific, I am pleased to welcome all of you to this opening session of the Second Training and Resources Development Workshop in Environmental Economics, organized in the very beautiful city of Kathmandu. This workshop is convened by the Network for Environmental Training at Tertiary Level in Asia and the Pacific, or NETTLAP for short, based at the Regional Office in Bangkok.

First of all, I wish to note UNEP's appreciation to Tribhuvan University, and in particular its Centre for Economic Development and Administration, for hosting this workshop. A special thanks must go to the Centre's Director, Prof. Pushkar Bajracharya, for his efforts as one of NETTLAP's Thematic Network Nodes and to Mr Rajendra Shrestha for his work as the Workshop Convenor.

ROAP is also grateful to UNEP's Environmental Economics Unit for its considerable financial and technical support for this workshop.

The objective of the present workshop is to provide a forum for the presentation, evaluation and compilation of curriculum guidelines, resource materials, instructional aids and training methods appropriate for tertiary-level training and education activities in Environmental Economics. Universities and other tertiary institutions play a vital role in human resources development for Environmental Economics. But such institutions should not work in isolation - that is why we have invited a far broader cross section of expertise and institutional affiliations to this workshop.

Environmental Economics is one of the keys to achieving the goal of environmentally sound and sustainable development - of both the economy and society. It is also instrumental in providing methods by which progress towards this goal can be measured, in environmental, economic and social terms. The need for such advances can be all too easily

demonstrated in the Asia-Pacific region, with its widespread poverty, pervasive environmental degradation and major contrasts in quality of life and economic and social progress.

Environmental Economics is a concept and a tool that can be applied to most situations where substantial and/or multiple use of resources needs to be rationalised and coordinated in order to minimise impacts and facilitate ecologically, economically and socially sound and sustainable uses of those resources. Many developing countries throughout the Asia-Pacific region have little experience in training and in the practical application of Environmental Economics. The limited positive experience that has been gained in the region does, however, offer the opportunity for informative learning experiences. The development and wide dissemination of teaching and training materials and tools in Environmental Economics, based on practical experience, can be useful as a strategy to increase human resources capacity to deal with environmental and resource management issues. The ultimate aim of such activities must be to raise awareness and enhance the environmental expertise of tertiary level educators and, through them, university graduates, policy formulators and decision makers.

I would like to provide you with a timely example of UNEP's diverse activities in Environmental Economics - earlier this year the Commission on Sustainable Development asked UNEP and others to undertake an analysis of the environmental impacts of trade policy. In a recent speech at the Global Environment Action Conference in Tokyo, UNEP's Executive Director confirmed that the goal of an effective Environmental Impact Assessment of trade policy must be the optimal allocation of resources, to improve economic efficiency. UNEP will assist countries to more effectively facilitate the national implementation of environmental reviews, as well as help them to improve the means by which countries implement national tarification and other schedules related to the Uruguay round. Furthermore, UNEP will soon be announcing the details of a major international conference on the topic of environmental reviews of international trade policy.

University staff and graduates will play an increasingly important role in ensuring that industry and governments are equipped to use economic principles and knowledge to, amongst other things, encourage and reward innovation, develop environmental and natural resource accounting systems at both national and enterprise levels and to move economies and societies towards the goal of sustainable development.

Tertiary institutions will take a leading role in progressing Environmental Economics in the directions I have just outlined. Staff from such institutions are becoming increasingly involved in Environmental Economics in general and in training in particular. There are a number of reasons: i) tertiary institutions are the primary fora for such training, often being contracted by the government and private sector to develop and implement training courses and programmes; ii) graduates of courses offered by tertiary institutions in the region soon gain positions of responsibility in government and industry due to the current shortage of qualified personnel; and iii) staff of tertiary institutions often serve on government and non-government organizations where their advice may be highly influential.

NETTLAP's strategy in conducting workshops such as this is to make use of existing expertise and services wherever possible, rather than duplicate the extensive experience that

has already been accumulated by various agencies. We see at least two benefits from such partnerships - namely an effective use of existing resources and the strong possibility of further rapid progress in the development of innovative training and educational programmes. The latter are likely to be facilitated by the participation of professional educators. Agencies where there is an excellent potential for close collaboration include UNEP's Environmental Economics Unit (EEU), Environmental Assessment Programme (EAP) and Environmental Education and Training Unit (EETU), the Asian Development Bank and the Economic and Social Commission for Asia and the Pacific (ESCAP). The workshop also provides an opportunity for tertiary educators to be made aware of, and to make use of, the expertise that exists within the region.

You as participants will benefit directly from the curriculum guidelines, resource materials and instructional aids prepared as part of the present workshop. Furthermore, we see you as representing a large and influential constituency to whom the results of this workshop must be transferred. There are, of course, your colleagues - we hope you will share the outputs of this workshop with them and encourage them to incorporate the outputs in their education and training programmes. But in addition to training and educating a large number of students who will be the decision-makers and managers of the future, staff of tertiary institutions are often directly involved in advising on, and assisting with, the development and implementation of environmental and related policies that benefit from economic analysis. Thus staff are encouraged to incorporate the newly acquired information and teaching methods in their regular teaching, and also in short courses offered for government and industry. In this way, and despite involving only a small but key group of people in the workshop itself, the information and skills you acquire over the next three days will be transferred both widely and rapidly.

As workshop participants you will be invited to make a formal presentation at the workshop, placing particular emphasis on the contribution of Environmental Economics to Environmental Impact Assessment and to Natural Resource and Environmental Accounting, principally with respect to the implications for training in tertiary institutions.

We also encourage you to critique and provide constructive advice to other workshop participants regarding further development of their own contributions.

Your advice as to the most appropriate ways to package the physical outputs of the workshop for widespread dissemination and use will also be appreciated, as will advice on further development of training activities that will benefit tertiary level trainers and educators specializing in Environmental Economics.

Relevant outputs of the workshop will be packaged and disseminated to appropriate NETTLAP members and to other pertinent individuals and agencies. Additional sub-regional training workshops will be held, initially covering countries in East and Southeast Asia and the Pacific. These will draw on the experience gained in the present workshop.

Moreover, we will continue to interact with you. Through NETTLAP, contact with you will be ongoing. For example, you will now receive *NETTLAP News* on a regular basis. We encourage you to submit short items for inclusion in the Newsletter.

Finally, I would like to extend my best wishes for every success to all participants in the various activities over the next three days. I trust that the expertise you gain here will prove to be fruitful to you and your work in the near future.

Thank you for your attention.

ANNEX 4

OPENING ADDRESS

Mr Kedar Bhakta Mathema

Vice Chancellor
Tribhuvan University
Kathmandu, Nepal

Your Royal Highness Crown Prince Dipendra Bir Bikram Shah Dev,
Honourable Prime Minister,
Honourable Minister for Education, Culture and Social welfare,
Excellencies,
Distinguished Participants, Guests,
Ladies and Gentlemen

It is a great privilege and honour for me to have this opportunity to chair and address this distinguished gathering of people, who are seriously committed and eager to contribute their knowledge, wisdom and experience to this NETTLAP Training and Resources Development Workshop on Environmental Economics.

This workshop is taking place at the time when Nepal is increasingly concerned over its environmental degradation and development, and assumes an added significance. I believe, your deliberation and conclusion of the workshop will be much profitable to us to come up with the viable and substantive teaching learning methodologies especially in the sphere of environmental education and training.

The concept of environment has broad based dimensions including both resource use and management and conservation of resources. Environment today is one of the key issues before us with far-reaching implications in the overall development process of the country. Excessive and wasteful use of available resources and endowment leading to their rapid depletion, especially in the Third World nations, has given rise a serious concern requiring immediate action to strike a harmonious blend between the development and environment.

In the context of developing countries like Nepal, this problem is still more severe, not only due to the fact that there is degradation of forest, there is degradation in the grassland and that there is degradation in the fertile soil with much of it flowing in the Gangetic plain, but, above all, the single most important factor lending hand to those degradations is poverty and this is where, I believe, lies a major challenge to be overcome before we move ahead to address other environmental dimensions. Our effort to check excessive stress on environmental resources will remain ineffective and insignificant unless there is improvement in the life style and poverty situation. This calls for sustainable development based on preservation, non-

wasteful and rational use of natural resources. It is this integration of development and environmental dimensions that will alone help ensure the path for sustainable development.

In addition, lack of awareness is all pervasive in the developing countries like Nepal. Lack of environmental education and awareness, largely instrumental in perpetuating damage to scarce and valuable resources, is another facet of the problem where International Agencies like UNEP can substantially help through their action plan and training courses to improve the situation. Here in Nepal, the Tribhuvan University is also seriously committed to introduce environmental courses at the tertiary level in the near future. Initiation to develop appropriate curriculum to impart such courses at tertiary level through different avenues, both government and private sectors, is under way. In these respect, I believe, the ensuing deliberation in the present workshop yield substantive results which may provide us valuable guidelines in designing and developing an effective, meaningful and pragmatic courses for tertiary education on environmental economics.

We are pleased that UNEP Regional Office has chosen CEDA, one of the research centres of Tribhuvan University, as thematic node and also conducting this workshop in Nepal. I wish every success for this workshop.

Thank you !

OPENING ADDRESS

Mr Rajendra Shrestha

Centre for Economic Development and Administration
Tribhuvan University
Kathmandu, Nepal

Your Royal Highness the Crown Prince,
Mr. Chairman
Rt. Hon. Prime-Minister
Hon'ble Minister for Education, Culture and Social Welfare
Excellencies
Distinguished Guests and Participants
Ladies and Gentlemen

On behalf of my colleagues and myself, I offer our heartiest and sincere gratitude to Your Royal Highness the Crown Prince for gracing this function and inaugurating it. Your Royal Highness the Crown Prince - We felt highly honoured and it has been great inspiration to us to work still harder and remain committed to our task ahead.

May I also express my sincere thanks to Rt. Hon. Prime-Minister who came here to be with us despite his busy schedule, and Hon'ble Minister for Education, Culture and Social Welfare for his thought provoking and inspiring views.

Similarly, I would also like to thank Chairman of this inauguration function, Vice Chancellor of the Tribhuvan University for giving his valuable time and making a substantive address. We have been highly impressed from his moral support and encouragement.

Thanks are also due to Dr. Suvit Yodmani, Director and Regional Representative for Asia and the Pacific who came all the way from Thailand to be with us and deliver a Keynote Address in this inaugural function of NETTLAP's Training and Resources Development Workshop on Environmental Economics.

I would also like to take this opportunity to extend heart-felt thanks to Your Excellencies, Distinguished Guests to be with us in this inaugural function. To the distinguished participants who came from different countries to contribute in this Workshop, I also want express my sincere thanks.

I would also like to extend my thanks to ICIMOD, and particularly Mr. Egbert Pelinck, Director General of ICIMOD, for supporting this Workshop by hosting a dinner and taking keen interest to make this Workshop a success.

The support of UNEP has enabled us to organize this workshop for which Dr. Ponniah, Dr. John Hay, Ms. Vorhies and Mr. Mahesh Pradhan have played a lead role and have been extensively involved in the arrangements. I am very much thankful to all of them for their assistance.

I would also like to convey my gratitude to my Executive Director for assigning me to look after NETTLAP activities here in Nepal and to coordinate this Workshop. I would also like to express my profound appreciation to all CEDA Staff who are working behind the scene in this workshop.

Thank you !

ANNEX 5

WORKSHOP OBJECTIVES, APPROACH, CONTENT AND OUTCOMES AND THE ROLE OF NETTLAP

John E. Hay

NETTLAP Coordinator
UNEP/ROAP
Bangkok, Thailand

and

Environmental Science
School of Environmental and Marine Sciences
University of Auckland
Auckland, New Zealand

THE WORKSHOP

The objective of the workshop is to identify and develop methods, tools and materials in Environmental Economics applicable for use in education, training and awareness programmes conducted by staff in tertiary institutions.

The intention is to strengthen the ability of staff in tertiary institutions of the Asia-Pacific region, and the South and Central Asian sub-region in particular, to impart knowledge and skills to achieve substantial and/or multiple use of resources in a rational and coordinated manner in order to minimise impacts and facilitate ecologically, economically and socially sound and sustainable uses of those resources.

Staff from tertiary institutions, including universities, technical institutes, professional training institutes and teacher training colleges, will be the immediate beneficiaries of this workshop. They form a large and influential constituency. In addition to training and educating substantial numbers of students who are the decision-makers and managers of the future, staff of tertiary institutions are often directly involved in advising on, and assisting with, the development and implementation of policies which relate to Environmental Economics. These staff will be encouraged and assisted to incorporate the newly acquired information and teaching methods in their regular teaching activities, and also in short courses offered for government and industry. Thus, despite involving only a small but key group of people in the workshop itself, the information and skills will be transferred both widely and rapidly.

Specifically, the workshop will result in the direct training of workshop participants, but through them it will be possible to train their colleagues in tertiary institutions, students in formal degree and certificate programmes, participants such as government officials, industry managers who attend short courses, as well as the general public through community outreach programmes conducted by the tertiary institutions. Relevant members of NETTLAP

will share in the results of the workshop through distribution of a resources volume based on relevant workshop outputs. There is thus there is a large "multiplier effect" arising from this workshop.

The workshop is not a conventional technical workshop related to aspects of Environmental Economics. Rather the focus is on the identification, development, evaluation and dissemination of methods, tools, and materials used to support training activities in Environmental Economics. Thus the approach of the workshop is to share relevant knowledge, skills and experiences, to demonstrate and evaluate methods and tools, to develop and evaluate materials and to identify and commit to appropriate follow-up activities, individually and collectively.

The selection of workshop participants, and the programme itself, recognises that not all the relevant training expertise lies within tertiary institutions. For this reason the workshop brings together a broad range of participants: experienced trainers in Environmental Economics, from government and the private sector as well as from tertiary institutions themselves; individuals who are experienced in the more technical and practical aspects of Environmental Economics; and experienced environmental trainers and educators who can make contributions to training at the more generic level.

The workshop is conducted as a series of substantive modules focusing on training:

- Environmental Economics and Sustainable Development
- Training Policies, Activities and Methods
- Environmental Economics and Environmental Impact Assessment
- Economic Analysis of Environmental Law and Policy Instruments
- Incorporation of Socio-economic Analysis into Environmental Impact Assessment
- Incorporating Environmental Considerations into Trade, Investment and Development Policy
- Training, Curriculum Content and Course Planning

and on:

- generic training methods;
- curriculum development; and
- training packages, kits and materials.

All outputs and outcomes of the workshop relate to some aspect of training in Environmental Economics:

- curriculum guidelines, training methods tools and materials related to Environmental Economics, and of principal use by staff in tertiary institutions;

- a published workshop report that also includes methodologies and case studies demonstrating the application of the above outputs;

- tertiary level trainers aware of the resources and expertise available to them for teaching and training in Environmental Economics, and familiar with methods being used by

experienced and successful trainers; and

- commitments for follow-up activities that build on the methods, tools and materials shared at the workshop.

THE ROLE OF NETTLAP

Staff of tertiary institutions (i.e. universities, technical institutes, training institutes and teacher training colleges) are key targets for environmental training for various reasons, including the:

- large multiplier effect inherent in training such staff, this arising from the immediate transfer to colleagues and to participants in tertiary education and training programmes (degree and diploma programmes, short courses, continuing education and continuing professional development courses etc);

- important role played by tertiary staff advising industry and government, including government ministers with respect to UNEP's priorities and effectiveness;

- frequent involvement of staff as technical consultants to government and in the private sector;

- important standing a staff as community opinion leaders; and

- existing experience of tertiary staff in environmental training, this being a knowledge and skills base that should be built upon.

It is for reasons such as these that countries of the Asia-Pacific region called on UNEP to involve staff of tertiary institutions in its environmental training programmes, as both participants and resource persons. These activities are coordinated and implemented, in part, by the Network for Environmental Training at Tertiary Level in Asia and the Pacific (NETTLAP).

NETWORK FOR ENVIRONMENTAL TRAINING AT TERTIARY LEVEL IN ASIA AND THE PACIFIC (NETTLAP)

The Network for Environmental Training at Tertiary Level in Asia and the Pacific was established by UNEP and is a key activity of UNEP's Environmental Education and Training Unit (UNEP/EETU) and the Regional Office for Asia and the Pacific (UNEP/ROAP).

The network consists of institutions and individuals active in environmental education and training at tertiary level in the Asia-Pacific region. NETTLAP works closely with its government appointed National Focal Points (NFPs) in the 35 countries participating in the Network. This ensures that the environmental training needs of countries in the region are clearly identified and optimum use is made of existing expertise and other national resources.

Currently NETTLAP links over 150 key tertiary institutions and more than 1500 staff members who are active in environmental education and training and who can contribute to and/or benefit from the availability of resource materials and training programmes related to environment and development.

The Network is designed to:

- enhance the environmental expertise of tertiary level educators and through them the knowledge and skills of decision makers and policy formulators;
- increase the environmental skills and awareness of tertiary level graduates;
- enhance environmental technologies, and capacities for their use; and
- strengthen the overall environmental expertise in the region at technical, management and policy levels.

This is achieved by:

- enabling the updating and strengthening of environmental courses and programmes, and the environmental content in other specialized courses;
- preparation and dissemination of curricula guidelines, resource materials, learning aids and packages for environmental training;
- encouraging and disseminating innovative methods in environmental training;
- identification of needs and sharing of knowledge through ongoing interaction amongst network partners;
- implementation of targeted technical Training and Resources Development Workshops.

Achievement of NETTLAP's objectives is facilitated by the use of Thematic Networks, each with a Thematic Network Coordinator (TNC). Currently there are three - Toxic Chemicals and Hazardous Waste Management, Coastal Zone Management and Environmental Economics. For each theme, sub-regional Thematic Network Nodes (TNNs) have been appointed to enhance coverage of the vast Asia-Pacific region.

To further ensure that NETTLAP operates effectively at the national level many countries have also identified Specialist Focal Points (SFPs) in each theme.

To service its members, the principal activities of NETTLAP are:

- increasing environmental awareness and expertise of network members through operation of the Network and through distribution of a triannual newsletter - *NETTLAP News*;
- maintaining and disseminating a directory of institutions and individuals active in

environmental training at tertiary-level;

- conducting Training and Resources Development Workshops for tertiary-level environmental educators and trainers;

- preparing and disseminating curriculum guidelines and the resource materials, learning aids and training packages to support their implementation, these resources having been developed, adapted and evaluated at Training and Resources Development Workshops.

- convening regional consultative meetings on tertiary-level environmental education and training to identify emerging needs, and the methods to resolve short-comings in current capacities to address them; and

- developing and applying innovative approaches, methods and technologies to support the environmental education and training processes, often in collaboration with the private sector.

In the above activities NETTLAP cooperates with UNEP sub-programmes (e.g. Environmental Education and Training Unit, Industry and Environment Centre, Environmental Economics Unit, Oceans and Coastal Areas Programme, Secretariat for the Basel Convention, International Register for Potentially Toxic Chemicals), and other relevant regional and international organizations and institutions, in environmental training activities.

While UNEP has been providing catalytic funding to support the above activities of NETTLAP, there is a need broaden participation in and support for the Network, thereby ensuring its long-term sustainability.

NETTLAP should continue to give priority to serving the needs of its members. This requires an effective mechanism for determining the requirements of the membership and for responding to them. NETTLAP should strengthen its own communications channels - print, Email and, into the future, interactive video - as well as pioneering the application of options provided by others; e.g the Sustainable Development Network and Internet.

To justify its continuing existence NETTLAP must produce identifiable improvements in the quality and extent of environmental training being conducted by and within tertiary institutions in the region.

As an environmental training network, NETTLAP might be viewed as <u>one</u> delivery mechanism at the regional level, coordinating and assisting with delivering the following:

- appropriate technical input provided in part by the relevant specialized centres of UNEP;

- appropriate input in generic environmental training guidelines, methods and tools provided in part by the relevant units of UNEP; and

- appropriate responses to identified regional and national needs and capacities provided in part by UNEP/ROAP.

There are large multiplier effects associated with training staff in tertiary institutions and the key. Staff also make immediate and significant contributions to achieving desired environmental outcomes through their interactions with industry and government. For these reasons staff from tertiary institutions are urged to play an active role in NETTLAP and ensure the maximum benefits are gained from UNEP's environmental training activities at the regional level.

ANNEX 6

SELECTED TRAINING METHODS

1. DISCUSSION STARTER (OR TRIGGERS)

    - LISTENING FOR ISSUES
    - DIALOGUE (INCORPORATE ISSUES IN DISCUSSIONS)

    USE "SHOWeD"

        See - what do you see here?
        Happening - What's really happening?
        Our - Is situation same or different to our own?
        Why - Why is there a problem?
        Do - What can we do about problem?

    - ACTION (IDENTIFY STRATEGIES & ACTION PLANS)

2. AUDIOVISUALS

    - OVERHEAD TRANSPARENCIES
    - SLIDES
    - FLIP CHARTS
    - BLACKBOARD
    - WHITEBOARD
    - VIDEO
    - COMPUTER
    - POSTERS

3. LECTURE

4. DISCUSSION

5. WORKSHEETS & QUESTIONNAIRES

6. BRAINSTORMING

7. SMALL GROUP EXERCISES

    - CAMEOS
    - CASE STUDIES
    - ROLE PLAYS

8. INDEPENDENT ASSIGNMENTS

9. FIELD ACTIVITIES
    - SITE VISIT
    - TECHNICAL VISIT
    - FIELD RECONNAISSANCE
    - FIELD WORK

10. COMMUNITY BASED PROJECTS

11. REPORT BACK SESSION

12. PRIORITIZING/PLANNING ACTIVITY

13. PLANNING DECK

14. PANEL

15. COUNTRY/SITUATION REPORT

16. AUDIENCE QUESTIONS

17. CLASS CALCULATIONS

ANNEX 7

UNEP'S SMALL WINDOWS PROJECT

UNEP's Environmental Education and Training Unit (UNEP/EETU) has developed a strategy (the *Small Windows Project*) to provide financial support for relevant environmental training and education projects. Environmental Education aims at increasing awareness, knowledge, skills and understanding of both children and adults with respect to the environment and to the human interrelationship with the environment. It has a long-term perspective.

Environmental Training aims at increasing and enhancing the knowledge, skills and attitudes as well as providing the management tools needed by individuals, organisations and governments to work towards the prevention and solution of environmental problems. It has a short- and mid-term perspective.

To be eligible for financial assistance through UNEP/EETU's Small Windows Project the proposed project must:

- be in the field of either Environmental Education or Environmental Training;
- have a requested budget that does not exceed US$10,000 for projects on Environmental Education, or US$15,000 for projects on Environmental Training;
- include a counterpart contribution in cash or in kind;
- have as its major objective to improve the environment through capacity building and aim towards sustainable development;
- be innovative and replicable;
- be carried out at the grassroots level;
- be small scale; and
- have clear starting and completion dates with concrete results expected at the end.

UNEP/EETU has provided guidelines for writing project proposals for the Small Windows Project.

The project proposal must be concise, but complete. The project proposal should follow the following format:

Title: The application should state clearly that it is a project proposal for a Small Windows Project on either Environmental Education or on Environmental Training.

1. Organisation(s) Involved

1.1 Description

Name, address, director, etc.

1.2 Background

The background of the organization(s), including objectives and activities, and affiliation, if any, with other institutions or organisations.

1.3 Staff

Description of the people carrying out the project, and their responsibilities.

2. The Project

2.1 Objectives

What are the objectives of the project? Give a description of how these objectives meet the needs of the local community and in what way they aim towards sustainable development.

2.2 Results

What concrete results can be expected out of the project?

2.3 Target group(s)

What are the target group(s) for the project - give a short description. Explain why this target group was chosen.

2.4 Support

If the project is supported by the government or a major organization, or if you have other donors, an indication of their names and the type and amount of support should be given.

3. Workplan and Timetable

3.1 Workplan

Give a detailed workplan describing the various activities that will be undertaken within the project.

3.2 Timetable

Give a timetable and description of the location where the activities will be carried out.

4. Budget

A detailed budget should be given, not only describing what the requested money is needed for, but also what in kind or financial contribution will be provided by the organisation. Indicate other possible donors.

5. Evaluation and follow-up

5.1 Evaluation

How will the results of the project be evaluated?

5.2 Follow-up

What will happen with the results of the project in the short and the long term? Are there any further activities anticipated?

5.3 Report

How will the project be reported back to UNEP/EETU? In which way will the expenses be justified?

Background documentation and correspondence which will support the project proposal should be enclosed.

The project proposal can be sent to:
Dr S. Yodmani, Director
UNEP Regional Office for Asia and the Pacific (ROAP)
United Nations Building
Rajdamnern Avenue
Bangkok 10200, Thailand
Telephone (66 2) 2829161-200/2829381-369
Telefax (66 2) 2803829/2809602; Telex TH 82315 BANGKOK or TH 82392 BANGKOK

ANNEX 8

COURSE DESIGN AND DEVELOPMENT

1. LIAISON WITH UNIVERSITY AUTHORITIES

- scoping within administrative unit (e.g. department)
- scoping with other interested parties (colleagues, students, NGOs etc)
- development of proposal
- informal consultation with interested parties
- submission of the formal proposal to university authorities
- response to feedback and further consultation
- undertake necessary iterations
- staffing: allocation, selection and training

2. RESEARCH INTO THE TEACHING MATERIAL, INCLUDING QUALITY CONTROL

- identification and scoping of learning approaches
- research of core material
- scoping of lecture and study notes
- identification and scoping of practical sessions and case studies
- scoping of student reading material
- scoping of evaluation procedures
- scoping of student assignments
- scoping of examination structure

3. PRODUCTION OF LECTURE AND STUDY NOTES AND OTHER MATERIALS

- content of lecture notes
- content of study notes
- writing of lecture notes
- writing of study notes
- development of master copies
- printing and production of study materials
- proof reading and quality control

4. PRACTICAL SESSION SELECTION, CASE STUDIES AND TRAINING

- scoping of practical session format and content
- development of practical session content
- development of case studies
- training and other professional development procedures
- development of marking and other assessment procedures

5. PROMOTION OF THE PROGRAMME

- initial market research (demand testing)
- development of publicity and other awareness raising materials
- media contacts and other submissions
- international liaison

6. SELECTION AND ENROLMENT OF STUDENTS

- selection criteria and acceptance
- documentation

7. STUDENT LIAISON ISSUES

- administration
- communication procedures
- complaint resolution

8. STUDENT AND STAFF ASSESSMENTS

- basis of standards
- evaluation procedures
- student examination procedures
- quality control
- continuing professional development
- complaint resolution

ANNEX 9

PARTICIPANTS' PLEDGES

In order to encourage effective follow-up to the workshop, each participant was asked to make an individual pledge in response to the questions: i) what will you do? and ii) what would you wish to do as a member of a joint activity? The following are the individual pledges. They are quoted verbatim.

A. Damodaran

i) a teaching package on "The Economics of Cleaner Production Techniques and Technologies" for Asia.

ii) Collaborate with my fellow participants from Japan, Malaysia and Sri Lanka, within the NETTLAP framework.

Pushkar Bajracharya

i) review and improve a training programme in environmental management.

ii) Approach UNEP for Small Windows project funding to conduct training on Environmental Economics - to be made sustainable later on; initiate informal networking in the sub-region, by communication.

Hidenori Niizawa

i) Include case studies in my lecture notes.

ii) Successful preparation of the next NETTLAP Environmental Economics workshops in Japan.

Binod Karmacharya

i) Become involved in research related to the environment that could be used as teaching material for training.

ii) Become involved in NETTLAP activities through my Centre, CEDA.

David McCauley

i) Provide names of Sri Lankans for the NETTLAP newsletter; suggest participants for the next NETTLAP workshop; put NETTLAP on the NAREP mailing list; inform appropriate US institutions of NETTLAP's efforts; be available to serve as a participant at future NETTLAP workshops; encourage the use of NETTLAP outputs in Sri Lanka and elsewhere.

ii) improve communications among individuals and institutions; incorporate NETTLAP contributions into education programmes.

Rajendra Shrestha

i) Develop short training courses for politicians.

ii) Work together with other training institutions to incorporate some courses about Environmental Economics into their training programmes.

Hari Upadhyaya

i) Identification of environmental issues for training at various levels, including tertiary level.

ii) Collaboration and linkage with UNEP/NETTLAP at the institutional level; and sharing community-level experiences on environmental management.

Muraleedharan T.R.

i) Conduct an economically viable Environmental Economics training programme for South and Southeast Asia country representatives.

ii) Seek support from NETTLAP to test out new training modules.

Sharad Sharma

i) Inclusion of environmental management aspects in the curriculum at graduate and postgraduate levels.

ii) Conduct seminars, discussions and case studies on environmental issues with examples drawn from different countries.

Rabin Lal Shrestha

i) Organise community initiatives for better environment and sustainable resource recovery.

ii) Networking with national and international institutes for information sharing and conducting research and training on Environmental Economics for non-economists.

Narendra Kayastha

i) Action oriented programmes and courses on Environmental Education.

ii) Group discussions with the target group.

Majid Makhdoom

i) To revise my lecture notes, and share my experiences with colleagues at home.

ii) To invite some of the people here to Iran to give us lectures, and initiate some thoughts on our current research programmes.

Kamar Ali

i) I will share the workshop experience with my colleagues and utilize my expertise in my own research activities.

ii) I will take the initiative of organizing a training programme on Environmental Economics with my colleagues, provided I receive some financial support.

H.B. Kotagama

i) Use Asian-based cases in my teaching; write a text book on Environmental Economics in Sri Lanka.

ii) Keep professional and personal contacts with workshop participants and with NETTLAP.

Khalid Rahim

i) To expand knowledge and improve teaching skills.

ii) Exchange of information through affiliation and association.

Bhuban Bajracharya

i) Work for operationalizing EIA by undertaking study and writing a paper.

ii) Conduct a training programme for decision-makers and policy analysts.

Deborah Vorhies

i) Incorporate comments of workshop participants into design of future training programmes.

ii) Develop new and better training methods in Environmental Economics.

Paul Huber

i) I, Prof. Paul Huber, strongly object to evangelical manipulation, and .... on principle .... I never make pledges. But .... I will try to assist CEDA in any way I can to develop training modules on Environmental Economics and to refine environmental management training courses.

ii) Networking regarding: a) new teaching/training approaches; b) new case studies; and c) software.

A. Saule

i) I will give all information on Environmental Economics training workshop to all in my country and utilize my research materials for Environmental Economics.

ANNEX 10

WORKSHOP EVALUATION

Each participant completed a formal evaluation questionnaire (see Annex 12) at the conclusion of each day and submitted their response during or immediately after the final session. The questionnaire was designed to assess participants' expectations of and experiences in the various aspects of the workshop programme and activities.

For each question the quantitative responses have been aggregated and the resulting data presented as a series of graphs (Figs. 10.1 through 10.16). The left hand diagram in each graph indicates whether participants felt that the session or activity was above or below their expectations. This information was derived from the individual responses to a request for each participant to indicate the extent to which they expected the session or activity to be relevant and then score the actual experience. Thus the expectation and experience responses are scored directly, while the information on whether the session or activity was above or below expectations is derived from the differences between these two responses. This relative information may thus reflect more correctly the actual opinions of the participants.

The reactions of participants to other aspects of workshop organization and implementation are also available via the questionnaire.

A summary of the responses follows:

1. Module I: *Environmental Economics and Sustainable Development*

Fig. 10.1 indicates that while some participants considered the module to be highly relevant, practical and useful, a significant number felt that the module lacked these qualities to some extent. Similarly, for most participants the module met or exceeded expectations, but for some it did not.

Positive comments about the session were:
- high point was transparency and exchange of ideas
- highlight was approaches to measuring social welfare
- highlight was the good discussion
- high point was total information

Negative comments about the session included:
- low point was poverty and problems associated with managing the environment in a growing economy
- low point was post-presentation questions
- the subject matter is well known as a debate that is ongoing - we did not focus on how well this debate should be taught

- presentation was not impressive - expected a complete attention to the existing literature and a rather thorough treatment of the issues discussed
- highly conceptual
- low point was presentation

2. **Session:** ***Training Methods and UNEP's Training Activities and Support***

For most participants the session was relevant, useful and practical and most stated that the session met or surpassed their expectations (Fig 10.2).

Positive comments about the session were:
- highlight was brainstorming
- high point was the training methods
- general discussion was high point
- both presentations were pleasant
- John Hay's presentation was excellent
- materials presented were very relevant to the objectives and quite comprehensive
- highlight was curriculum development
- high point was the use of visual aids

Negative comments about the session included:
- low point was the evaluation
- low point was questions after the presentation
- training methods out to have been discussed in the context of teaching Environmental Economics, and in developing countries specifically

4. **Module II:** ***Environmental Economics and Environmental Impact Assessment***

The general view of participants was that the module was relevant, useful and practical and that the module met or slightly exceeded expectations (Fig. 10.3).

Positive comments about the session were:
- highlight was keynote presentation
- high point was Muraleendharan's presentation for its humour
- the need for expansion in curriculum was clearly identified
- both the papers were very interesting and stimulating and I am really satisfied with contents and subsequent discussion in this session
- high points were presentation style and comprehensiveness

Negative comments about the session included:
- solutions could not be discussed - presenters of problems should think of solutions too

5. Module III: *Economic Analysis of Environmental Law and Policy Instruments*

Participants were approximately evenly divided as to whether this module exceeded or fell below their expectations (Fig. 10.4). Most thought the module contents were relevant or better.

Positive comments about the session were:
- good exchange of ideas
- high point was discussions and reactions to clean technologies
- Damodaran's paper was good
- expected a good presentation and was highly satisfied
- high point was discussions

Negative comments about the session included:
- presentations were bad
- low point was presentation on solid waste management plan
- none of the three papers involved much economic analysis
- low point was language and use of visual aids

6. Module IV: *Incorporation of Socio-economic Analysis into Environmental Impact Assessment*

Most participants considered this module fell short of being highly relevant. For many at the workshop the content of the module was close to their expectation (Fig. 10.5).

Positive comments about the session were:
- good exchange of ideas
- highlight was Pakistani presentation (2)
- Ali's written paper is excellent, but his presentation was hurried
- comprehensive papers

Negative comments about the session included:
- describing valuation techniques is not sufficient
- Rahim's paper was weak in relation to the topic - though as a how to do a survey it was comprehensive

7. Module V: *Incorporating Environmental Considerations into Trade, Investment and Development Policy*

This module exceeded the expectations of most participants. All found the module to be relevant, practical and useful, or better (Fig. 10.6).

Positive comments about the session were:

- high point was Deborah Vohries' presentation
- Karmacharya's paper was very good
- both papers from Nepal were excellent
- both papers initiated a very stimulating discussion on the case study
- highlight was interactive participation

Negative comments about the session included:
- Rahim's and Saule's papers were disappointing
- none of the first three papers focused on the topic

8. **Module VI:** ***Training, Curriculum Content and Course Planning***

Most participants gave this module a high score in terms of relevance, applicability and usefulness (Fig. 10.7). The module achieved or exceeded the expectations of most participants.

Positive comments about the session were:
- fruitful discussion
- high point was Sri Lanka's presentation
- highlight was John Hay's keynote paper
- all the papers in this session were extremely useful and helpful with a lot of pragmatic ideas an experiences. The success of the workshop really lies in this session
- highlight was curriculum development
- highpoints were coverage, presentation and discussion

9. **Concluding Session:** ***Follow-up Activities, Proposals for Future, Feedback***

All participants recorded that this session met or exceeded their expectations. The content was useful, relevant and practical (Fig. 10.8).

Positive comments about the session were:
- promises for the future were very encouraging
- high point was thought that went into feedback
- highlight was John Hay's wrap up
- very effective way of getting some concrete suggestions for the workshop
- extremely satisfied with the commitments of people who participated in the workshop
- highlights were the results of pledges and also the feedback participation

10. **Presentations by Participants from Countries in South and Central Asia**

While the presentations by participants from countries in South and Central Asia scored well in terms of relevance, usefulness and practical nature, many of the participants felt that the presentations did not fulfil their expectations (Fig. 10.9).

Positive comments were:
- thought provoking papers presented
- all papers except that on solid waste management in Nepal were high points
- expected quality presentations, and I was satisfied, with one or two exceptions

Negative comments included:
- emphasis of the module and the content of the papers presented were sometimes slightly different
- quality and relevance varied

11. Assessment of the Overall Programme and Workshop Activities

The overall programme and workshop activities were given a high score by most participants. The majority felt that the workshop exceeded their expectations, often by a substantial margin (Fig. 10.10).

Positive comments about the overall programme were:
- free and friendly discussions and openness
- very pithy start-off and wrap-up
- was successful and turned out to be fruitful
- very useful to get a sense of the quality and content of programmes/people from Sri Lanka, Bangladesh and India
- highly successful workshop
- high points were completeness, preciseness and purpose

12. Overall Assessment of the Keynote Presentations and the Methods Used

As indicated in Fig. 10.11, the keynote presentations reached or exceeded the expectations of most participants. They scored highly in terms of relevance, practicality and usefulness.

Positive comments about the session were:
- very well presented in most cases
- high points were presentations by Deborah Vohries and John Hay
- John Hay was very good
- highly relevant and provocative

Negative comments about the session included:
- low points were keynotes for Modules III and IV
- presentations highly variable
- low point was content - probably due to being keynote

13. Overall Assessment of the Materials and Other Resources Made Available During the Workshop

The materials made available at the workshop were generally considered to be relevant, useful and practical. As a whole, the workshop participants were divided as to whether or not the materials supplied exceeded expectations (Fig. 10.12).

Positive comments about the materials were:
- high points were papers on clean technology, economic reforms and the environmental situation in Japan
- many were useful
- I am very satisfied with all the support extended to the participants
- useful

Negative comments about the materials included:
- reference materials could have been provided well in advance

14. Awareness of New Approaches and Acquisition of New Skills

For most of the participants the new approaches and skills presented at the workshop exceeded expectations (Fig. 10.13). They were seen to be relevant, useful and practical, or better.

Positive comments about the approaches and skills were:
- highlights were training methods and some positive interventions
- John Hay's methods were novel to me
- my quest has been satisfied

Negative comments about the approaches and skills included:
- low point was needless comments by some of the participants
- most presentations were pedestrian
- expected to learn some other techniques and their application

15. Impact of this Workshop on Your Future Activities in Environmental Training and Education

Most of the participants considered that the workshop made a useful, relevant and practical impact on their future activities in environmental training and education. In this respect the workshop generally exceeded expectations (Fig. 10.14).

Positive comments about the impacts were:
- will incorporate more environmental issues in the curriculum
- improved presentation skills and techniques
- shared new ideas and EIA methods for future research and training activities
- new training methods
- increased awareness of case studies from other countries
- sure it will have a positive effect on my research activities

- time will show
- training methods, style, content and curricula will change

Negative comments about the impacts included:
- remains to be seen as materials must be read and digested - my pile is 3" thick!

16. **Overall Assessment of Workshop Organisation**

Overall, the participants felt that the workshop had been well organised. For most the workshop organisation exceeded their expectations.

Positive comments about the workshop organisation were:
- workshop succeeded in spite of suggested changes that came from UNEP HQ at late minute
- high points were the kick-off and wrap-up
- good
- expected and experienced excellent organisation, with few exceptions

Negative comments about the workshop organisation included:
- papers were not available well before the presentation
- there was no screening of papers resulting in good but irrelevant papers
- workshop programme could have been distributed beforehand; selection of designated discussant for each paper

17a. **What aspects of the Workshop did you find <u>most</u> interesting?**

- various participants
- case studies
- discussion sessions
- presentations by John Hay on training methods, by Muraleendharan and by Haroon Jamal
- pledges and collaboration
- the interaction of professionals in the region
- presentation and discussion on contingent valuation and other valuation approaches
- people's active participation and their individual commitment
- discussion; purposive leadership to attain workshop goals; dedication of all including UNEP/NETTLAP staff

17b. **What aspects of the Workshop did you find <u>least</u> interesting?**

- none
- report of the rapporteur
- presentation on solid waste management
- the intensive and tight schedule of the workshop
- some of the coverage

18. Number of participants indicating given response to each category.

	Excellent	Satisfactory	Fair	Poor	Very Bad	No Response
Pre Workshop Planning/Liaison	6	5	4	1	0	1
Travel Arrangements	5	3	2	0	0	7
Meeting Facilities	8	7	0	0	0	2
Quality of catering/food etc	6	9	0	0	0	2
Assistance given by UNEP/ROAP staff	8	5	0	0	0	4
Assistance given by Kathamdu staff	10	4	0	0	0	3

19. **With consideration to time constraints and the objectives of the workshop, what additional topics or presentations would you suggest be included in future workshops?**

- political environmental economics
- community based environmental economics
- more case studies on the use of different methodologies
- macroeconomics and environmental linkages
- case studies and policy analysis on environment
- economic analysis of environmental law
- incorporation of socio-economic studies in EIA
- problem solving examples and case studies
- field visits
- processes of decision-making
- new procedure for evaluation of environmental degradation
- global environmental issues and Environmental Economics
- trade and environment
- structural adjustment and environment
- I thought selection of topics was good, even if some presentations were somewhat off target; discounting, time preference and risk could be included
- demonstration of additional training methods
- environmental and natural resource accounting
- some Environmental Economics and EIA cases; problem solving; improvision of economic analysis and establishing tradeoffs with socio-ecological impacts

20. **Describe the *single most important difference* this workshop will have made to your activities as an environmental trainer (if none, please write "none" and explain why).**

- became international
- the workshop has widened my vision on implications of Environmental Economics for

environmental management
- greater interest in Environmental Economics
- increased responsibility
- none (2)
- more participation for developing countries
- the opportunity to observe economists' views
- improved presentation skills
- more confidence
- greater clarity and sense of relevance of some relatively arcane topics
- impressed me with the opportunities which are existing in this area
- enhanced professional skills and expertise
- none; few case studies
- can improve training methodologies

21. Please provide any additional comments you feel are important:

- proceedings should be published immediately, with a detailed record of discussions. A copy of the proceedings should also be sent to the institutions of the participants. The letter to the participants and their institutions should highlight their involvement in the workshop.

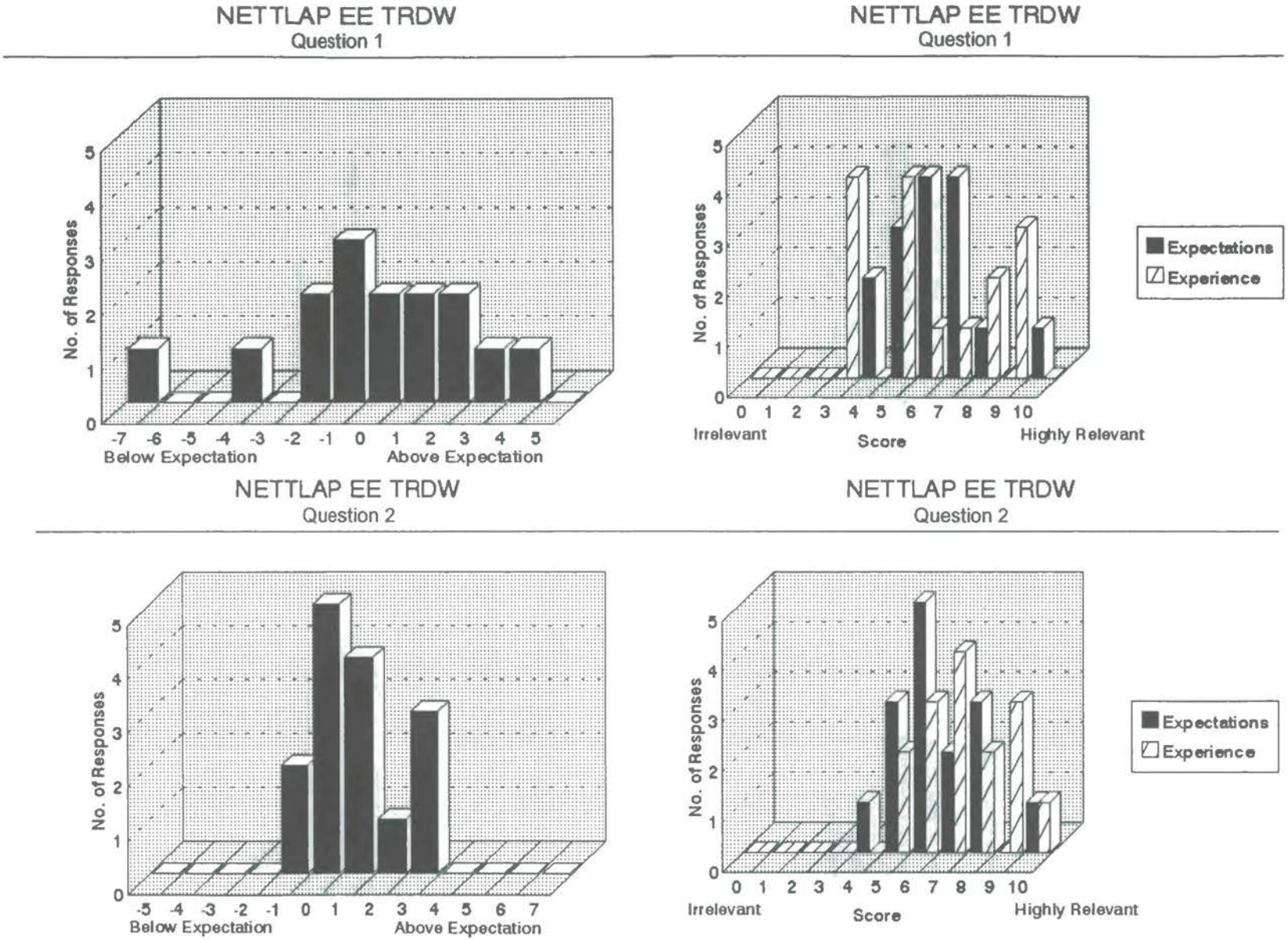


Fig. 10.1 (top) and 10.2 (bottom) - results of evaluation of sessions on *Environmental Economics and Sustainable Development* and on *Training Methods and UNEP's Training Activities and Support*, respectively.

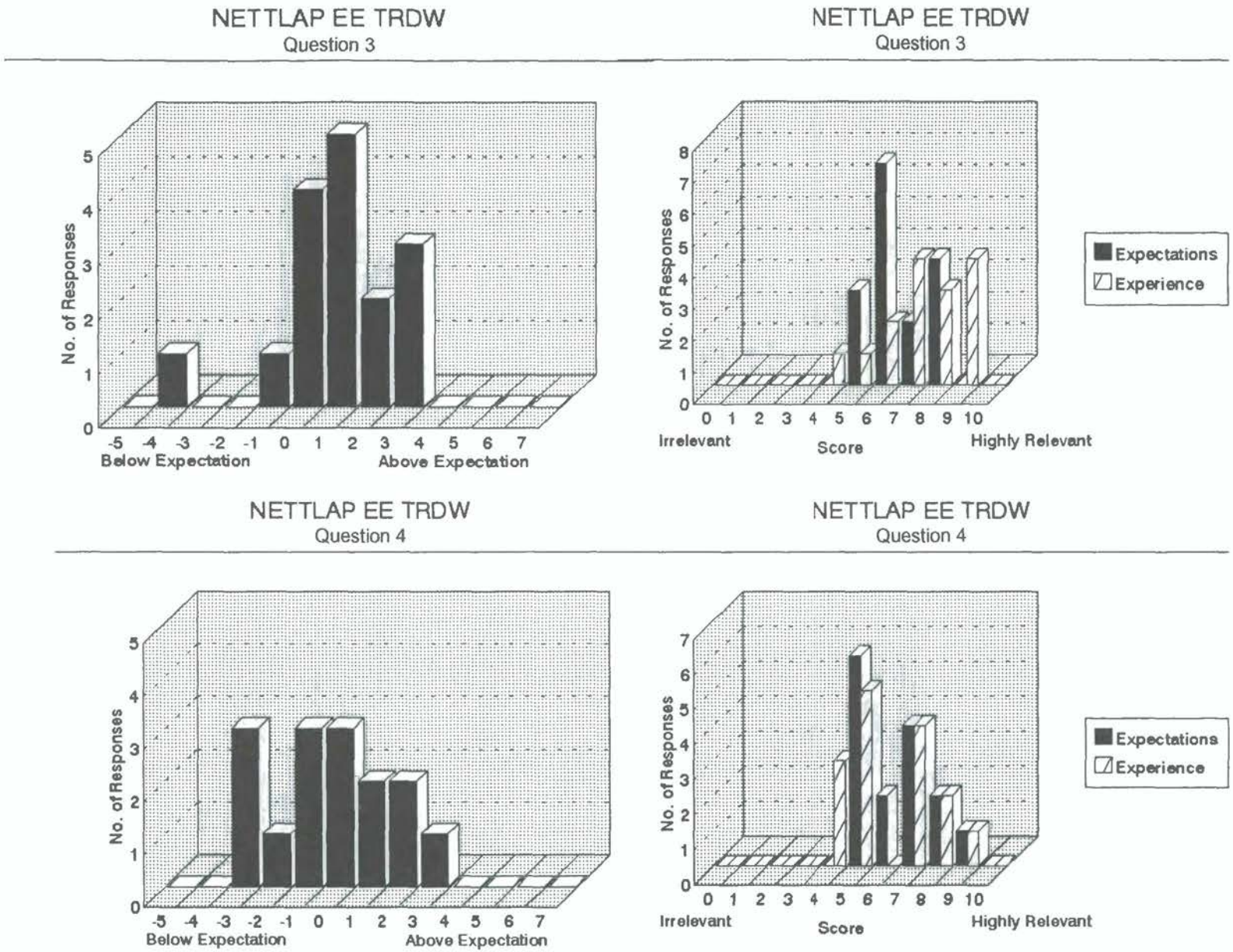
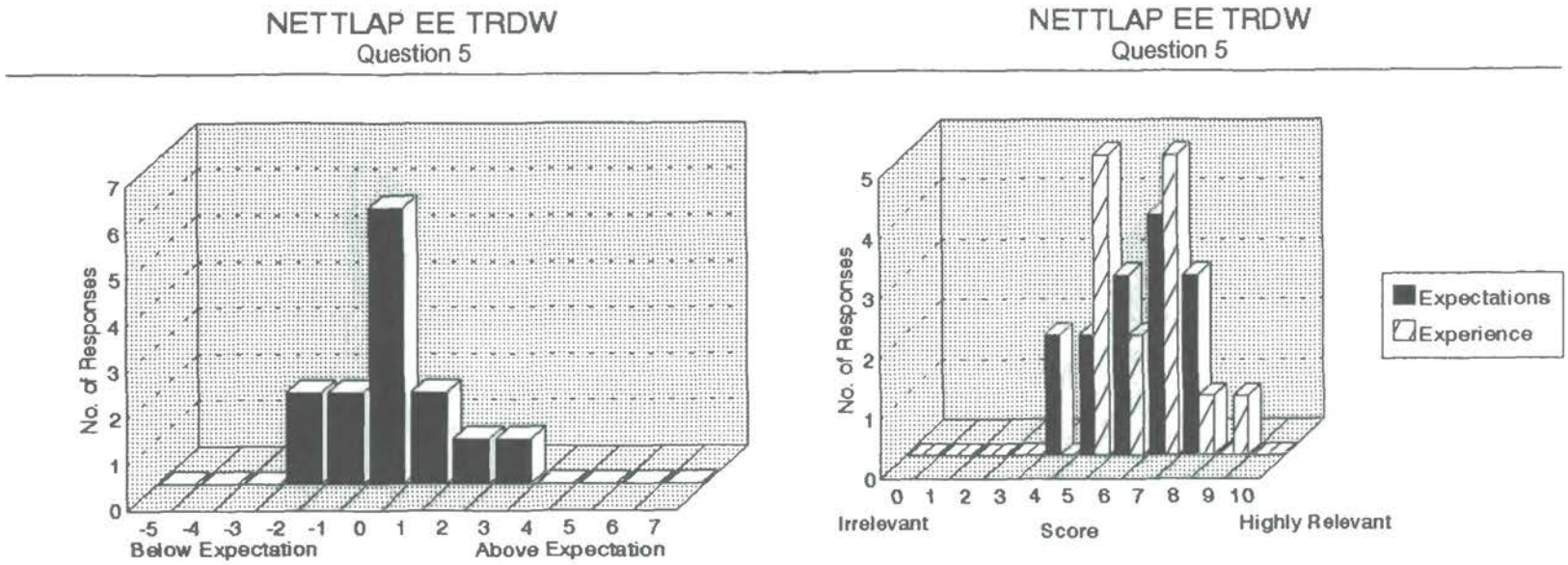


Fig. 10.3 (top) and 10.4 (bottom) - results of evaluation of sessions on *Environmental Economics and Environmental Impact Assessment* and on *Economic Analysis of Environmental Law and Policy Instruments*, respectively.



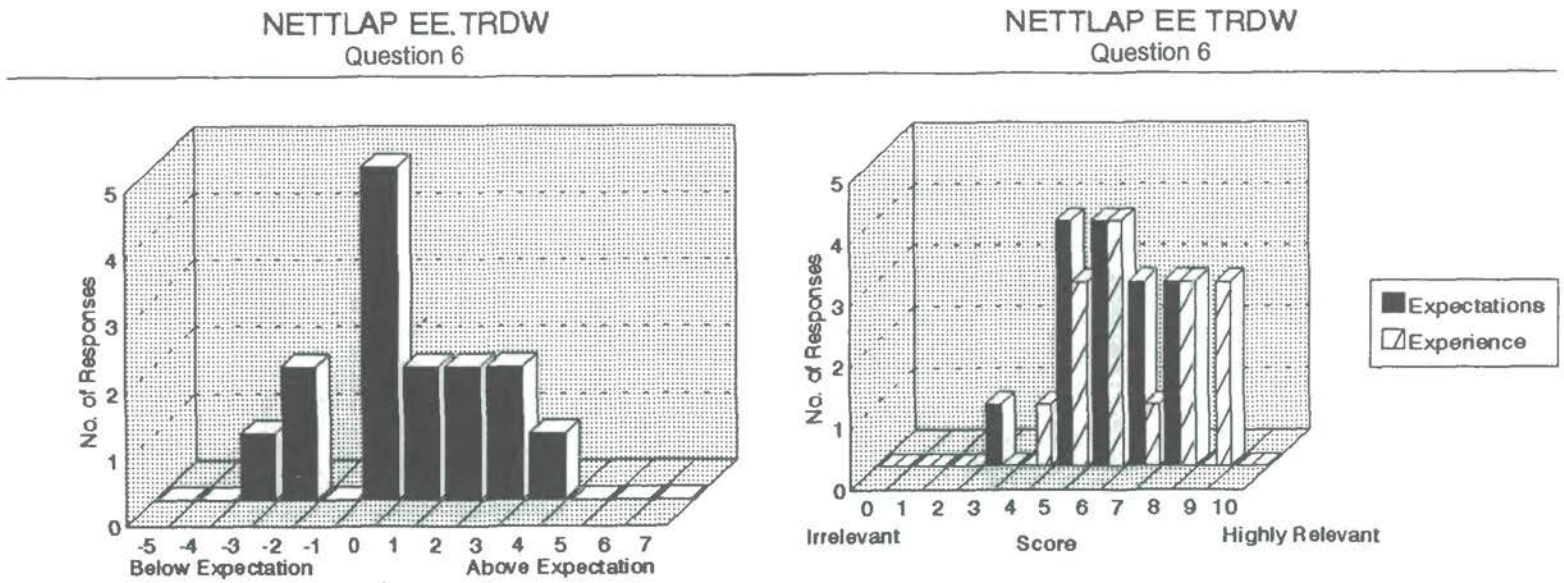
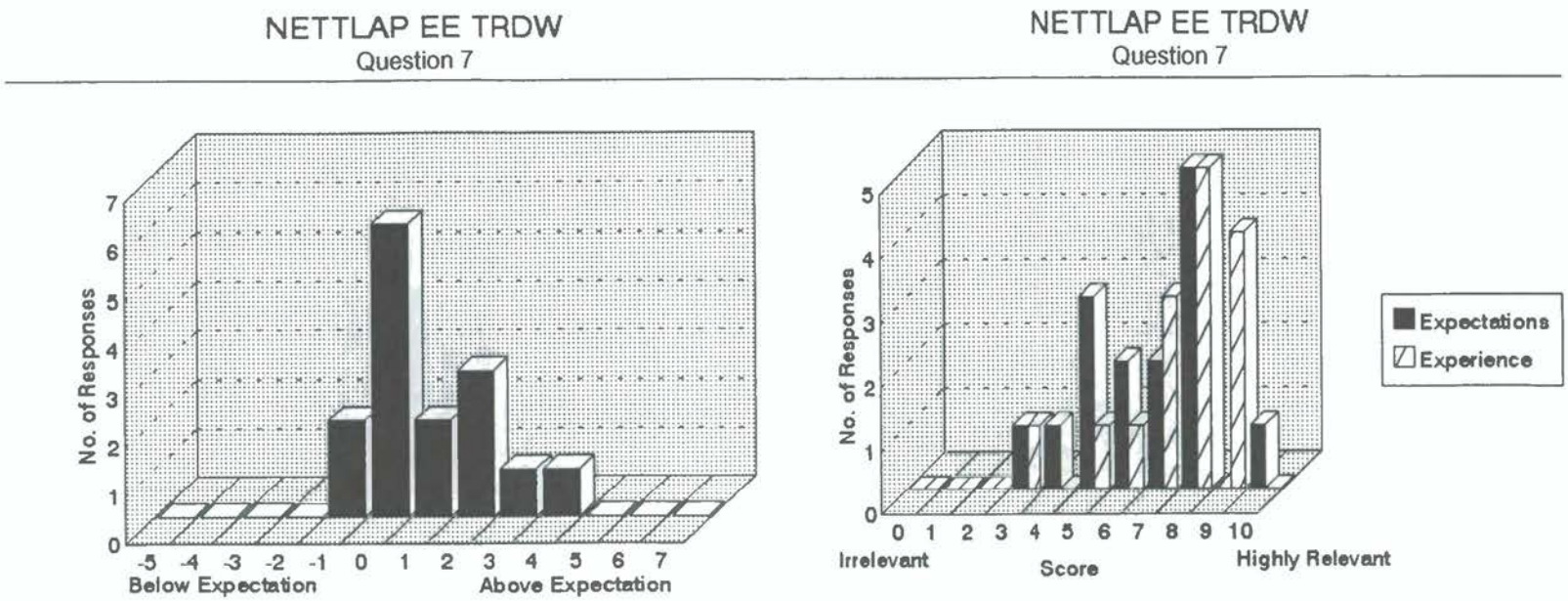


Fig. 10.5 (top) and 10.6 (bottom) - results of evaluation of sessions on *Incorporation of Socio-economic Analysis into Environmental Impact Assessment* and on *Incorporating Environmental Considerations into Trade, Investment and Development Policy*, respectively.



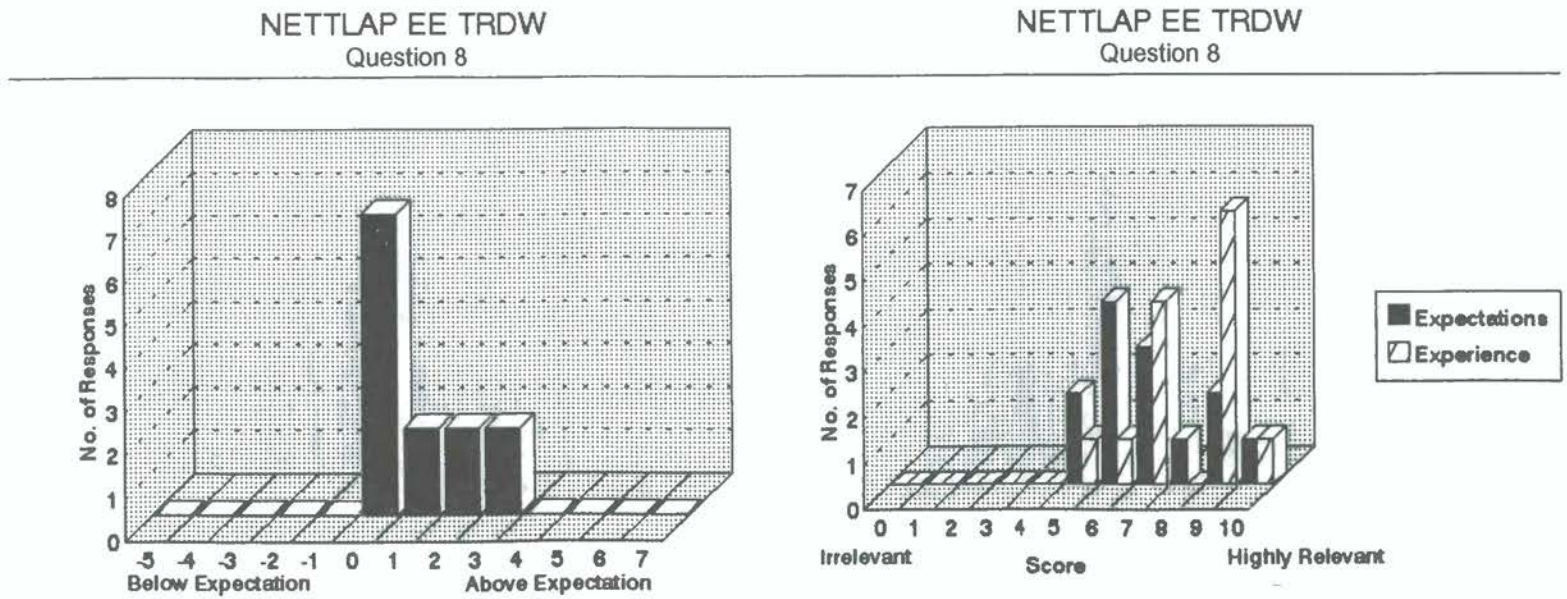


Fig. 10.7 (top) and 10.8 (bottom) - results of evaluation of a session on *Training, Curriculum Development and Course Planning* and of the *Concluding Session*, respectively.

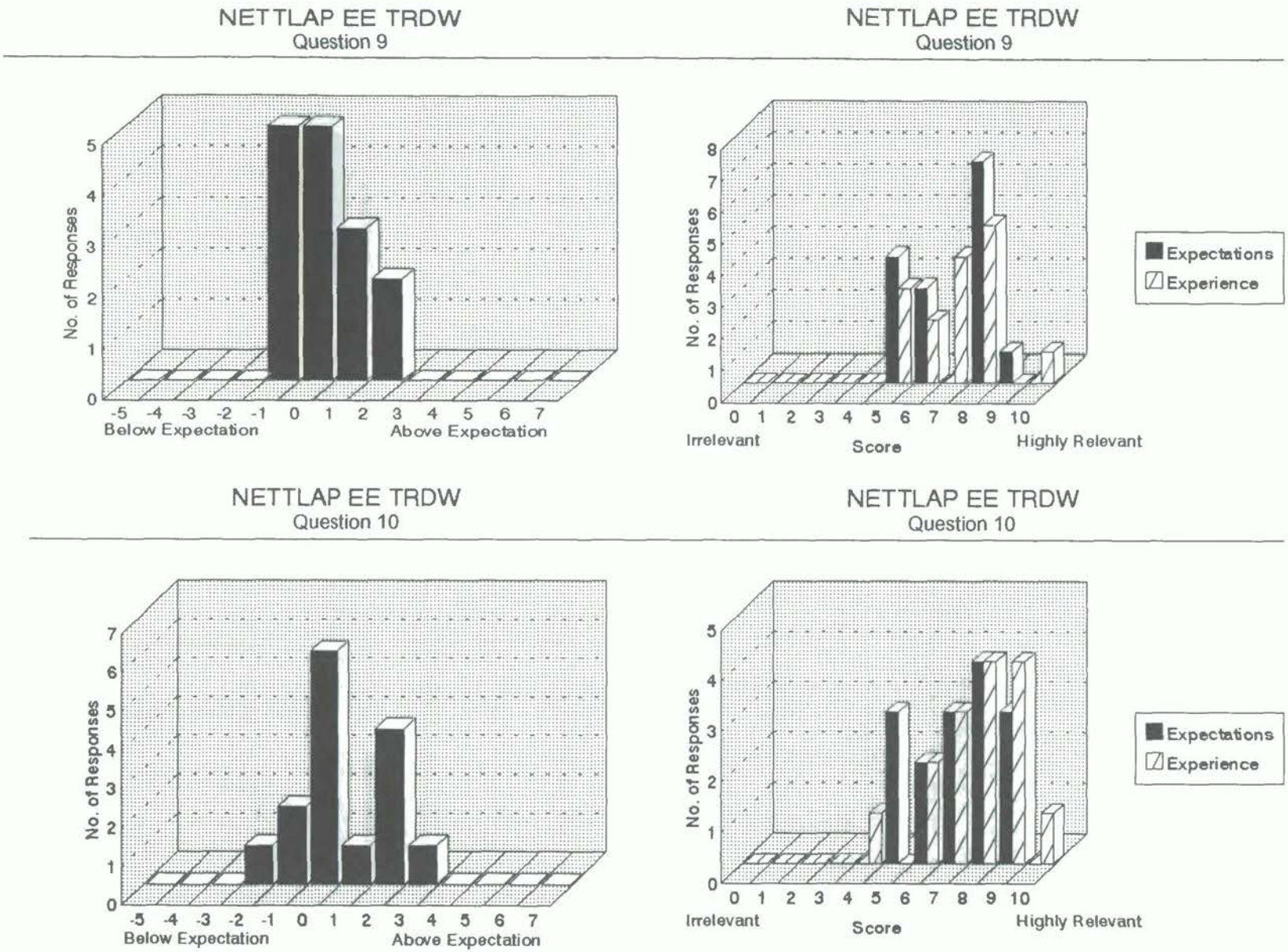


Fig. 10.9 (top) and 10.10 (bottom) - results of evaluation of *Presentations by Participants from Countries in South and Central Asia* and of the *Assessment of the Overall Programme and Workshop Activities*, respectively.

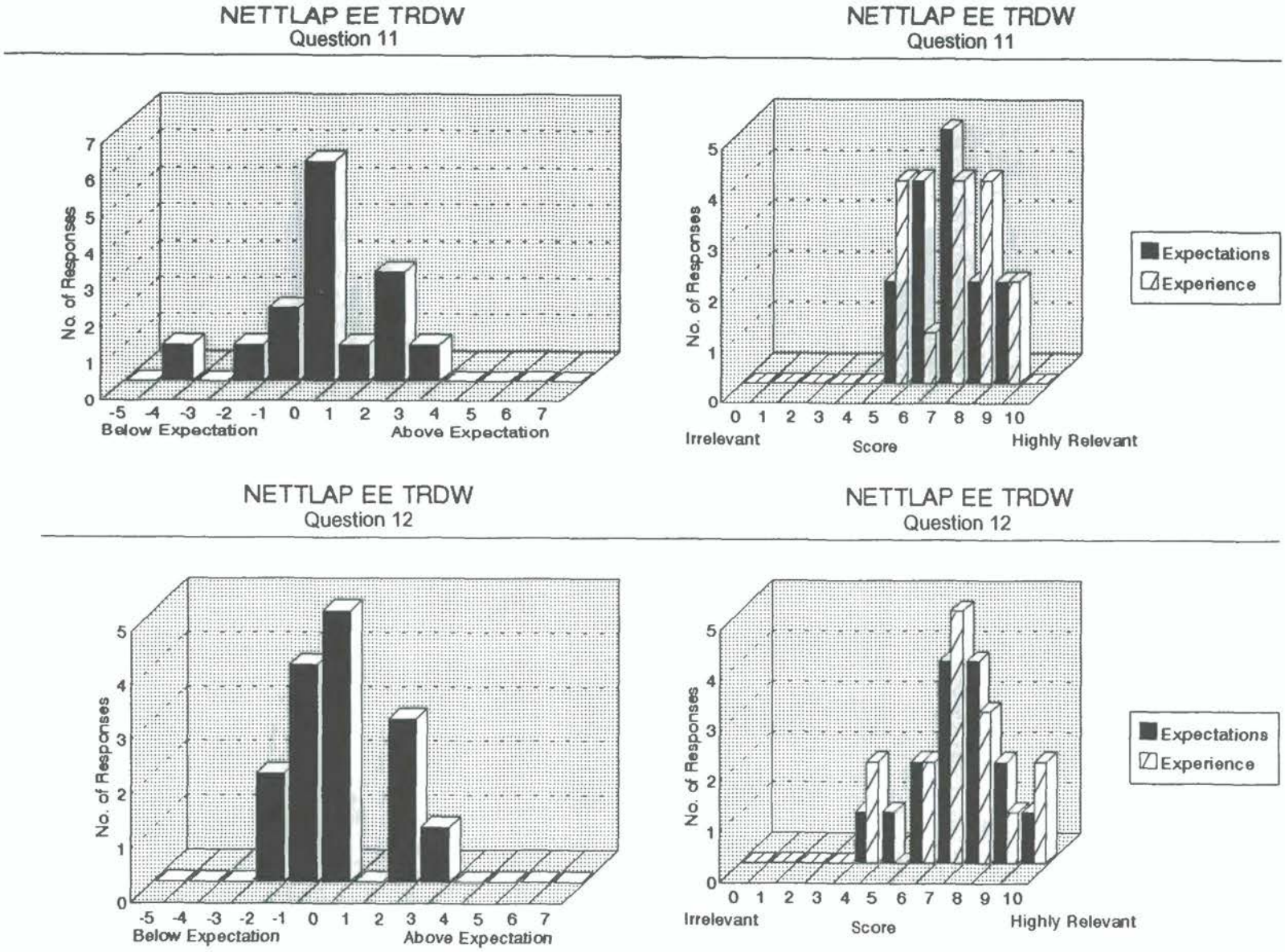


Fig. 10.11 (top) and 10.12 (bottom) - results of *Overall Assessment of the Keynote Speakers and the Methods Used* and of *Overall Assessment of the Materials and Other Resources Made Available During the Workshop*, respectively.

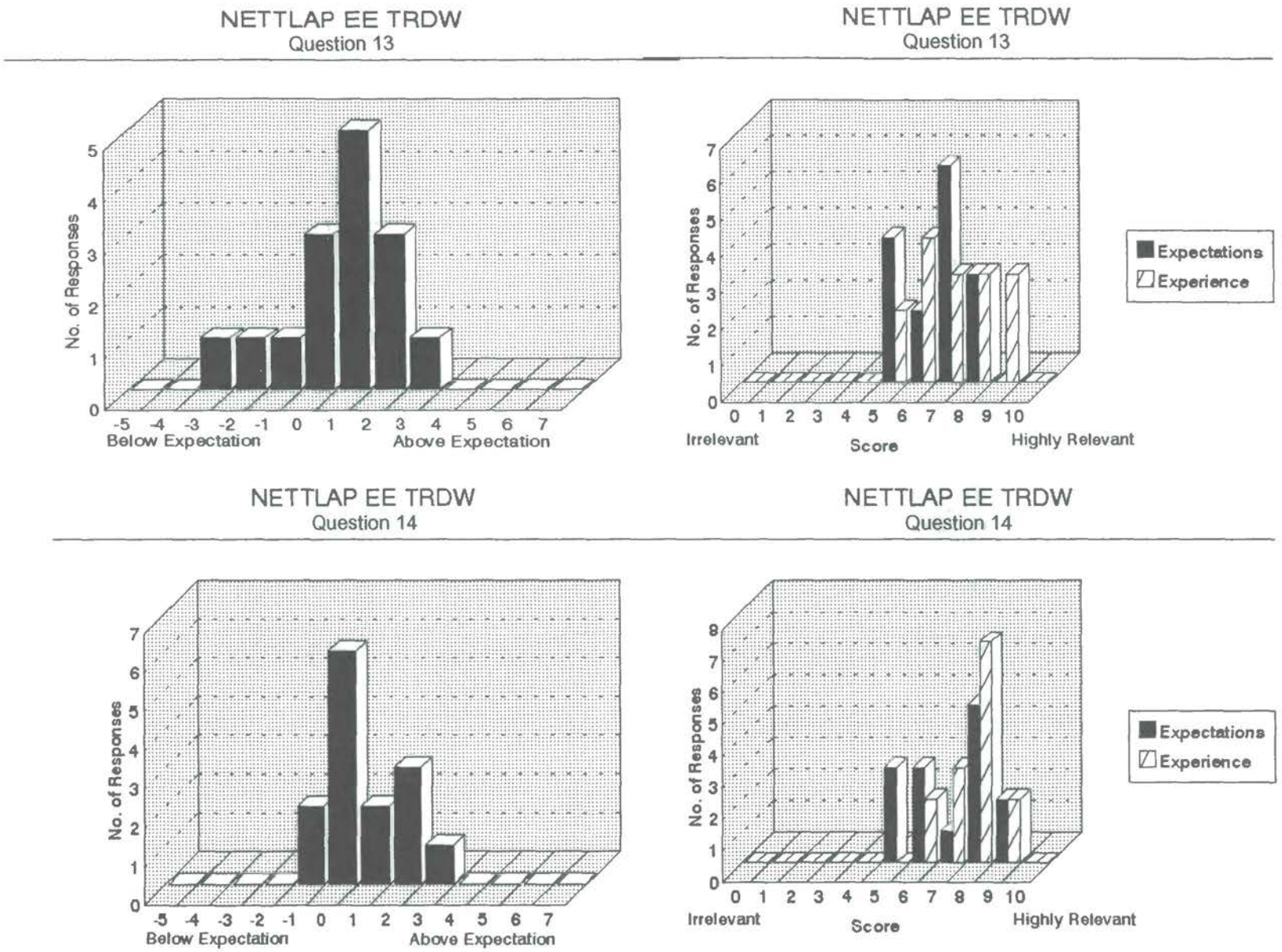


Fig. 10.13 (top) and 10.14 (bottom) - results of evaluation of *Awareness of New Approaches and Acquisition of New Skills* and of *Impact Workshop will have on Participant's Future Activities in Environmental Training and Education*, respectively.

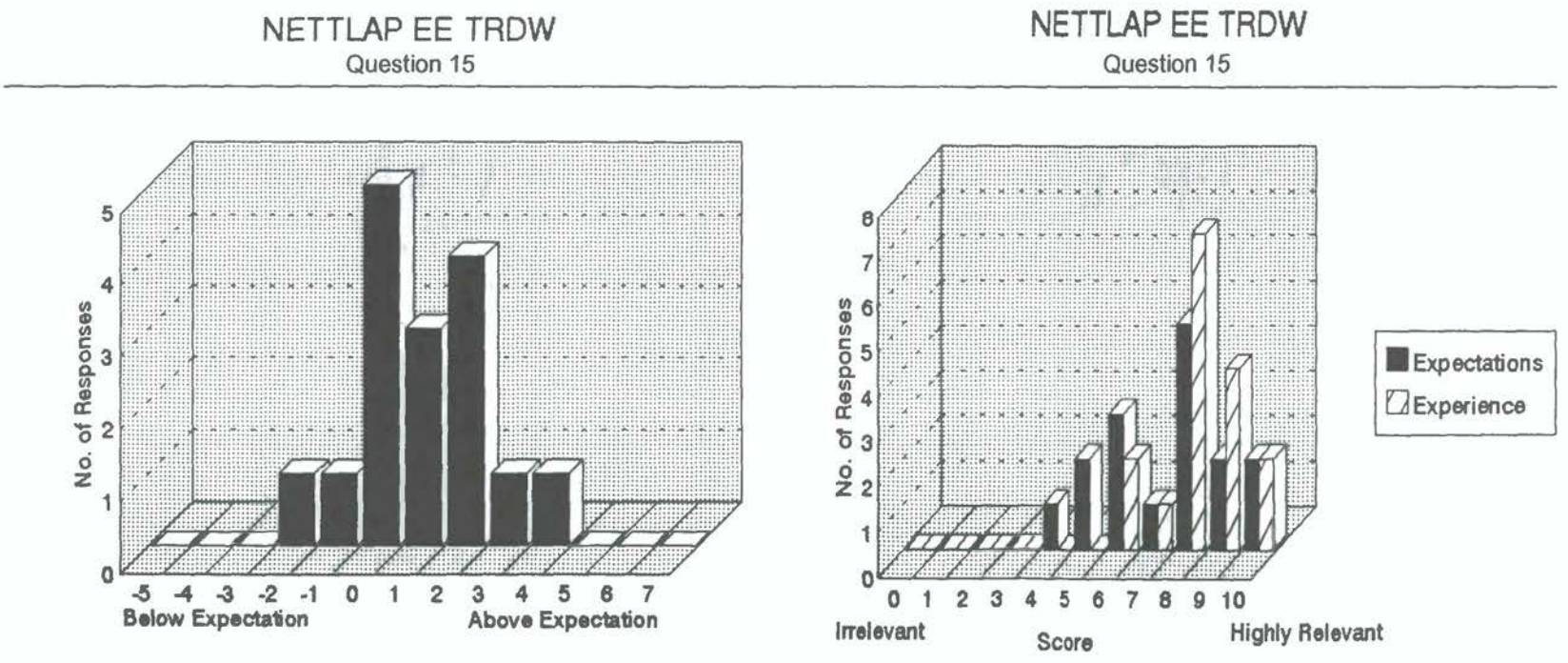


Fig. 10.15 - results of *Overall Assessment of Workshop Organisation*.

ANNEX 11

LIST OF DOCUMENTS DISTRIBUTED OR DISPLAYED

1. UNEP TWO DECADES OF ACHIEVEMENT AND CHALLENGE, 1992

2. UNITED NATIONS ENVIRONMENT PROGRAMME SASAKAWA ENVIRONMENT PRIZE, 1994

3. INDUSTRY AND ENVIRONMENT OFFICE

4. ASIA-PACIFIC IN FIGURES 1993, NOV. 1993

5. OUR PLANET (THE UNITED NATIONS ENVIRONMENT PROGRAMME MAGAZINE FOR SUSTAINABLE DEVELOPMENT) VOL. 6, NOV. 4, 1994

6. UNEP PROFILE

7. REGIONAL STRATEGY ON ENVIRONMENTALLY - SOUND AND SUSTAINABLE DEVELOPMENT IN ASIA AND THE PACIFIC, 1993

8. WORLD RESOURCES, 1994-95

9. INTEGRATED ENVIRONMENTAL AND ECONOMIC ACCOUNTING, 1993

10. UNITED NATIONS ENVIRONMENT PROGRAMME, ENVIRONMENTAL DATA REPORT 1993-94, 1993

11. CONTRIBUTIONS TO TRAINING IN ENVIRONMENTAL ECONOMICS IN THE ASIA-PACIFIC REGION AND (REPORT OF THE FIRST-NETTLAP RESOURCES DEVELOPMENT WORKSHOP FOR EDUCATION AND TRAINING AT TERTIARY LEVEL IN ENVIRONMENTAL ECONOMICS), OCTOBER, 1993

12. NATURAL RESOURCE ACCOUNTING (NRA) - A FRAMEWORK AND GUIDELINES.

13. STATISTICAL YEAR BOOK FOR ASIA AND THE PACIFIC, 1993

14. WASTING ASSETS, NATURAL RESOURCES IN THE NATIONAL INCOME ACCOUNTS, JUNE, 1989.

15. STATISTICAL INDICATORS FOR ASIA AND THE PACIFIC, SEPT. 1994

16. ENVIRONMENTAL IMPACT ASSESSMENT - GUIDELINES FOR INDUSTRIES DEVELOPMENT, 1990

17. ENVIRONMENT IMPACT ASSESSMENT - A MANAGEMENT TOOL FOR DEVELOPMENT PROJECTS, AUGUST 1988

18. ENVIRONMENTAL IMPACT ASSESSMENT - AN ENQUIRY INTO OPERATIONAL ASPECTS, FEB. 1989

19. ENVIRONMENTAL AND RELATED ISSUES IN THE ASIA-PACIFIC REGION, IMPLICATIONS FOR TERTIARY-LEVEL ENVIRONMENTAL TRAINING, 1994

20. STATE OF THE ENVIRONMENT IN ASIA AND THE PACIFIC 1990

21. PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT - THE ROLE OF BUSINESS AND INDUSTRY

22. NATURAL RESOURCES ACCOUNTING FOR SUSTAINABLE DEVELOPMENT

23. GREENING NATIONAL ACCOUNTS, JUNE 1994

24. NETTLAP NEWS, SEPT. 1994

25. FOREIGN TRADE STATISTICS OF ASIA AND THE PACIFIC, 1987-1991

26. ENVIRONMENTAL ACCOUNTING - AN OPERATIONAL PERSPECTIVE, 1994

27. TRAINING COURSE ON ENVIRONMENTAL MANAGEMENT FOR INDUSTRIAL MANAGERS AND ENGINEERS 15 SEPT - 15 OCT. 1993, AUGUST 1994

28. GUIDE FOR ENVIRONMENTAL AUDITING, 1994

29. INTEGRATED ENVIRONMENTAL AND ECONOMIC ACCOUNTING, 1994

30. DEVELOPMENT ENVIRONMENTAL AND NATURAL RESOURCE ACCOUNTING. WHERE TO BEGIN?

31. NATURAL RESOURCE ACCOUNTING-A FRAMEWORK FOR INDIA, NOV. 1993

32. AN OPERATIONAL DEFINITION OF SUSTAINABLE DEVELOPMENT, MARCH 1991

DISTRIBUTION LIST

1. TOWARDS CORPORATE ENVIRONMENTAL EXCELLENCE - CHALLENGES & OPPORTUNITIES IN ASIA-PACIFIC, OCT. 1995

2. NETWORK FOR ENVIRONMENTAL TRAINING AT TERTIARY-LEVEL IN ASIA AND THE PACIFIC (NETTLAP), 1992

3. PROCEEDINGS OF WORKSHOP ON ECONOMIC-CUM-ENVIRONMENTAL PLANNING, AUGUST, 1988

4. ENVIRONMENTAL MANAGEMENT ISSUES AND SOLUTIONS, 1993

5. UNITED NATIONS ENVIRONMENT PROGRAMME AT THE GLOBAL ENVIRONMENTAL ACTION CONFERENCE, OCT. 1994

6. ESCAP ENVIRONMENT NEWS VOL.I, NO.4, OCT-DEC. 1993

7. A SUB-REGIONAL WORKSHOP ON ENVIRONMENTAL IMPACT ASSESSMENT FOR COMMONWEALTH COUNTRIES OF EASTERN AND SOUTHERN AFRICA, MARCH 1994

8. NETTLAP NEWS, SEPT. 1994

9. THE INDIRA GANDHI INSTITUTE OF DEVELOPMENT RESEARCH

10. CONSUMPTION PATTERNS (THE DRIVING FORCE OF ENVIRONMENTAL STRESS), OCT. 1991

11. EIA: BEYOND REGULATIONS

12. ENERGY AND ENVIRONMENT AT IGIDR, APRIL 1993

13. P.G. DIPLOMA/PH.D. IN DEVELOPMENT POLICY - THE INDIRA GANDHI INSTITUTE OF DEVELOPMENT RESEARCHPROSPECTUS 1994, 1994

14. THIRD REPORT 1991-1993, 1993

15. THE ROLE OF THE ANALYTIC HEIRARCHY PROCESS IN ENVIRONMENT IMPACT ASSESSMENT. DISCUSSION PAPER NO. III, JUNE 1994

16. IMPACT OF OIL PRICE SHOCK ON CARBON EMISSIONS IN INDIA: AN ECONOMETRIC ANALYSIS, DISCUSSION PAPER NO. 95, SEPT. 1993

RESOURCES DEVELOPMENT WORKSHOP
FOR ENVIRONMENTAL ECONOMICS (EE) TRAINING

Kathmandu, Nepal, December 6-8, 1994

WORKSHOP EVALUATION

INSTRUCTIONS

Please provide your opinion on various aspects of the workshop - ***from the point of view of of the workshop being in support of environmental training activities at the tertiary level.***

Your opinions will be determined through your responses to THREE types of question:

a) the first questions will each require *TWO* responses, the first related to your expectations PRIOR to the specific activity, the second related to your experience DURING the activity.

For example, in the following table you would circle a high number in the top line if you came into the activity with high expectations, but circle a lower number in the lower line if your expectations were not fulfilled. If your expectations were just fulfilled equal numbers would be circled. If that aspect of the workshop more than fulfilled your expectations a higher number would be circled on the lower line.

	Irrelevant Impractical/Useless										Relevant Practical/Useful
EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

You will also be given the opportunity to describe the high and low points of each activity, as well as making more general comments.

b) Some questions ask you to TICK the most appropriate statement/option or to provide a brief comment.

c) You will be asked to provide background information to facilitate interpretation of the responses provided by participants.

NOTE: RELEVANT SECTIONS OF THE EVALUATION SHOULD BE CONCLUDED AT THE END OF EACH DAY. RETAIN THE EVALUATION FORM UNTIL THE END OF THE WORKSHOP.

COMPLETE QUESTIONS 1, 2 AND 3 AT CONCLUSION OF DAY 1

1. **Module I:** ***Environmental Economics and Sustainable Development***

	Irrelevant Impractical/Useless										Relevant Practical/Useful
EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

2. **Session:** ***Training Methods and UNEP's Training Activities and Support***

	Irrelevant Impractical/Useless										Relevant Practical/Useful
EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

3. **Which of the following roles are you playing in the Workshop? [tick ONE]**

	Kathmandu-Based Participant
	Other Participant
	Observer
	Keynote Presenter and Module Moderator

END OF EVALUATION FOR DAY 1

COMPLETE QUESTIONS 4, 5 AND AT CONCLUSION OF DAY 2

4. **Module II:** ***Environmental Economics and Environmental Impact Assessment***

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point.....

Other Comments.....

5. **Module III:** ***Economic Analysis of Environmental Law and Policy Instruments***

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

6. **Module IV:** ***Incorporation of Socio-economic Analysis into Environmental Impact Assessment***

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

END OF EVALUATION FOR DAY 2

COMPLETE REMAINING QUESTIONS AT CONCLUSION OF DAY 3

7. **Module V:** ***Incorporating Environmental Considerations into Trade, Investment and Development Policy***

	Irrelevant Impractical/Useless										Relevant Practical/Useful
EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

8. **Module VI:** ***Training, Curriculum Content and Course Planning***

	Irrelevant Impractical/Useless										Relevant Practical/Useful
EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

9. **Concluding Session:** ***Follow-up Activities, Proposals for Future, Feedback***

	Irrelevant Impractical/Useless										Relevant Practical/Useful
EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

10. **Presentations by Participants from Countries in South and Central Asia**

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

11. **Assessment of the Overall Programme and Workshop Activities**

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

12. **Overall Assessment of the Keynote Presentations and the Methods Used**

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

13. **Overall Assessment of the Materials and Other Resources Made Available During the Workshop**

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point .....

Other Comments .....

14. **Awareness of New Approaches and Acquisition of New Skills**

Nothing New

Everything New

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

LowPoint.....

OtherComments.....

15. **Impact of this Workshop on Your Future Activities in Environmental Training and Education**

Irrelevant
Impractical/Useless

Relevant
Practical/Useful

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

Positive Impact .....

Negative Impact .....

Other Comments .....

16. **Overall Assessment of Workshop Organisation**

Very Bad
Poorly Organised

Very Good
Well Organised

EXPECTATION	0	1	2	3	4	5	6	7	8	9	10
EXPERIENCE	0	1	2	3	4	5	6	7	8	9	10

High Point .....

Low Point.....

Other Comments .....

17. **What aspects of the Workshop did you find most and least interesting?**

MOST INTERESTING	**LEAST INTERESTING**
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

18. **For EACH of the following categories TICK the box which reflects your views most closely.**

	Excellent	Satisfactory	Fair	Poor	Very Bad
Pre Workshop Planning/Liaison					
Travel Arrangements					
Meeting Facilities					
Quality of catering/food etc					
Assistance given by UNEP/ROAP staff					
Assistance given by local staff					

19. **With consideration to time contraints and the objectives of the workshop, what additional topics or presentations would you suggest be included in future workshops?**

i).....

ii).....

iii).....

20. **Describe the *single most important difference* this workshop will have made to your activities as an environmental trainer (if none, please write "none" and explain why).**

.....

.....

.....

21. Please provide any additional comments you feel are important:

.....

.....

.....

.....

Thank you for your assistance and cooperation. Please hand the completed questionnaire to John Hay PRIOR to leaving the workshop.