Abstract: Networking environmental economists and professionals interested in the economic aspects of environmental management is helping to shape improved sustainable development policies. The networking creates regional “Epistemic Communities,” which are defined here as specific communities of experts sharing a belief in a common set of cause-and-effect relationships as well as common values to which policies governing these relationships will be applied. The creation of these communities will impact policies through acquiring better knowledge and by making each of its members more influential vis-à-vis policymakers. The birth of networks of environmental economists in various parts of the world is a new instrument to shape development policies that are environmentally and socially sustainable.

Keywords: Networking - Environmental Economics - Epistemic Communities

1 The views expressed in this paper for the First World Congress of Environmental Economists are those of the authors and should not be attributed to any organizations.
Introduction

International economic integration is becoming a reality. The expansion of trade has brought accelerated economic growth in many more parts of the world. This has forced countries to either encourage foreign investments and knowledge or quickly fall behind. Development policies have to adapt to this new reality which in the past has put a heavy burden on the environment. The view today is that it is possible to have a competitive and growing economy without necessarily increasing resource consumption and pollution proportionately. This, however, requires a new vision of development, modified institutions and regulations, and other forms of knowledge and political processes. The key to sustainable economic development is the efficiency with which natural resources will be used to maintain the integrity of the environment. The Economic Development Institute (EDI) of the World Bank has designed a program, the Political Economy of the Environment Program, whose main objective is to build capacity and share experiences in fostering a more efficient use of the environment to sustain economic growth. This program is briefly described below. An important component of the program is to support the creation of regional networks of professionals comprised of graduates from the program. These informal associations of professionals can become influential in formulating new policies of sustainable economic development in their countries.

Political Economy of the Environment

It is not possible to discuss environmental economics, both at the macro and micro levels, without relating environmental issues to a broad development vision that encompasses the political and social context. This approach promotes the notion that environmental and economic aspirations are not only reconciled but integrated. It also takes into consideration the mutation of society in a world of globalization, knowledge revolution and new technologies. It recognizes that environmental damage arises from many of the most fundamental activities of an economy: food, goods and energy production, transport; the pattern of employment and urban growth. Changing these features requires a restructuring of economic and social organization, i.e., a change in consumption patterns.

Environmental issues cannot be reduced to environmental damages and losses only, but should reflect fundamental questions people have about values and the quality of their lives. Does more consumption make us “better off”? What should the relation be between individuals and society? Rational decision-making methods cannot accommodate deep cultural concerns. Instead of “solving” environmental problems, reliance on strict benefit-cost analysis, for instance, may cause mistrust of the institutions that use the analysis. A consultative approach should often be part of a process to find a solution to environmental problems.

The trend in globalization is a mixed blessing for the environment. On one hand, increased global competition advocates for a policy of low labor costs and labor flexibility, as well as deregulation and an increase in resource use. On the other hand, increased competition spurs technological and managerial innovations, increasing efficiency and so decreasing resource use. As economies become more advanced, the shift in policy will be towards more value added, rather than lower labor cost, requiring high levels of investments in new technology and in human capital. Such a strategy would support a greater rather than a lesser degree of regulation. New environmental technology is helped and induced by stricter environmental standards. The political economy perspective requires that all these elements be taken into consideration and that the future is shaped according to the vision that societies set for themselves. It is in this general framework of the political economy of the environment that EDI’s program of capacity building in environmental economics was conceived.
EDI Training Program

The overall initial objective of the program was expressed as building the environmental capacity needed to prepare environmental assessment and direct the environmental strategy processes. It started in the Africa region. The objective was defined further when the training program was discussed with African professionals in the field. What they really wanted was to be able to prepare economic analyses for environmental assessments and environmental strategies themselves, instead of depending on technical assistance each time environmental work was to be prepared. The most effective way to insure that objective was to build the capacity to train in environmental economics in the region. A decision was then made to focus on the training of trainers in the first stage of the program.

Building institutional capacity through the strengthening of university programs and training centers was out of reach with the time and resources available. In any case, many donor programs of this type had generally been successful only as long as external resources were available. It was then decided that the program would be based on a core of motivated professionals from Universities and training centers, public or private including NGOs, with adequate backgrounds in economics. Later on, able environmental scientists and practitioners motivated to learn decision-making and policy processes were accepted into the program if they had some experiences or academic credentials in project analysis and development economics.

It was realized at the initiation of the program that a series of Training of Trainers (TOT) workshops alone would not be enough to impact anything on the ground unless
(i) the material covered was of an applied nature (see next section) and (ii) the newly-acquired knowledge was rapidly passed on to decision-makers at different levels in the government, as well as to NGOs and consulting firms who do the analytical work. For the latter, it was decided to introduce a second phase of the program where some seed money would be made available for trainers who wanted to organize seminars for targeted audiences to discuss important and specific environmental or related issues at the national level. While the regional TOT of the first phase of the program would be, in most cases, more supply-driven, the national workshops of the second phase were to be entirely demand-driven.

The content of the training had to be relevant to the practitioners if the program was to have any impact on the ground. Although environmental assessment and strategy were the two most important aspects of environmental work performed by environmental professionals, these studies had to be set in a proper framework. An environmental strategy had to be established in the context of appropriate macroeconomic and sectoral policies. Further, the environmental assessments had to be properly incorporated into the economic analysis of the project if the decision was to favor environmentally sustainable investment. Yet even this was not enough, for the social dimension also had to be duly considered for the project to be sustainable. A framework of reference was then proposed to link these relevant elements when mainstreaming the environment into the different economic analyses periodically carried out in a country. This framework of reference (Figure 1) was influenced by standard analyses performed by development banks at the macro, sector and project levels.

Eleven training modules have been developed, one for each element of the framework. A brief description of each module and its link with the elements of the framework is provided in Table 1. The series of modules are divided into two parts. Part I deals with Economywide Policies and the Environment and links the first six boxes of the framework: global, macroeconomic, sectoral, environmental, budgetary policies and development strategy. While Part II, the Analysis of Projects with Environmental Impact, links boxes 7-11 of the framework: project cycle, environmental assessment/social assessment, valuation,
decision to invest and monitoring. Each part is covered in one week of training. The regional TOT workshop is usually planned over two weeks with a field trip in between. In all these modules, the interaction between economic and policy considerations is stressed in the analysis of environmental sustainability, as explained in the previous section. For this reason, the program was titled Political Economy of the Environment.
## Table 1: Description of the Modules

### Part I: Economywide Policies and the Environment

**Module 1: Global Context (Box 1)**

In the spirit of the Rio Summit, a vision of Global Context, backed by a national strategy, is an important precondition to implementing successful policies for sustainable development. The strategy itself must be translated into a plan of action. The plan should be flexible and adaptable to new circumstances over time. This module places the training on the Political Economy of the Environment in the broader perspective of sustainable development as envisaged at the Earth Summit in Rio and enunciated in Agenda 21.

**Module 2: Macroeconomic Policies and the Environment (Box 2)**

Macroeconomic policies are implemented by manipulating mechanisms such as exchange rates, interest rates, wage policies, trade, and privatization. The impacts on and linkages of these mechanisms to the natural environment and social fabric are unique to each country. The green accounts attempt to quantify these impacts on GDP.

**Module 3: Sectoral Policies and the Environment (Box 3)**

Sectoral policies involve a broad range of specific policy variables, such as pricing, economic and regulatory instruments. In this module the emphasis is placed on having the price “right”. Sectoral policies can be analyzed with an aggregate supply-demand framework for different natural resources and sink functions. Examples illustrate sector policy and environmental linkages for the green (water, forestry and land use) and brown (energy) issues.

**Module 4: Environmental Policies and Priorities (Box 4)**

Once a vision of sustainable development and the appropriate macroeconomic and sectoral policies have been established, environmental policy priorities are set above and among sectors. A general approach should be used to determine priorities among direct public and private investments and indirect public investments, such as environmental incentives program, social, institutional, and legal actions. A participatory process is crucial for establishing priorities.

**Module 5: Budgeting and Public Expenditures Review (Box 5)**

The budget is the most important tool to insure that the environment is appropriately mainstreamed in macro and sectoral policies and that the environmental action plans can be implemented. Fiscal tools are important to implement new environmental policies by gradually reducing and/or removing subsidies, diagnosing and recalibrating existing taxes, and introducing new eco-taxes.

**Module 6: Country Development Strategy (Box 6)**

A strategy needs to be put in place for all the economic policies to incorporate the environmental and social aspects. The strategy should respond to national and international aspirations.

### Part II: Analysis of Projects with Environmental Impacts

**Module 7: Economywide Policies and Project Appraisal (Box 7)**

This module links policies with project and program analysis.

**Module 8: Project Analysis with Environmental/Social Assessment (Box 8)**

Project identification and preparation should integrate preliminary EA findings to ensure environmentally and socially friendly investments. Integrating EA early in the project cycle should be a formal and iterative process. EA findings should be integrated in a with/without project scenario. The state of the environment without the project (baseline study) is compared to the environmental changes foreseen with the project (environmental and social impacts). This information should form the backbone of the economic with/without analyses.

**Module 9: Environmental Valuation (Box 9)**

Valuation techniques help project analysts integrate EA information in the with/without economic analysis. They help value some of the unpriced inputs and outputs of the project, especially those identified in the EA.

**Module 10: Decision-Making (Box 10)**

Not all of the environmental effects identified in the with/without project scenarios may be priced and integrated into a cash flow. Supplementary bio-physical and social indicators or information should also be incorporated into the decision-making process using participation and multi-criteria methods. In addition to economic efficiency decision criteria, other criteria should be considered.

**Module 11: Monitoring, Management and Evaluation (Box 11)**

Project monitoring of financial, economic, environmental and social variables will facilitate project management and its ex-post evaluation. This evaluation in turn should help reshape policies and improve over time the instruments to implement them.

**Module 1-11: Environmental Analyses of Policies, Programs and Projects**

Tools for economic valuation are applied to analyze policies, programs and projects. The policy analysis matrix is revisited to integrate the value estimates.

Sustainable development has to be envisioned in a global context (Box 1 in Figure 1 and Module 1 in Table 1). At the macro level, policy reforms aimed at restructuring an entire economy are undertaken to better integrate the national economy into the world market (Box/Module 2) by adjusting the exchange rate, liberalizing trade, or gradually phasing out different subsidies. These
reforms will generally have a direct impact on the growth of the different sectors of the economy as well as on the environment. The impact on a particular sector is usually further analyzed in a specific sector study and in other studies directly related to that sector (Box/Module 3). The environmental impact of national and sectoral economic policies, as well as other policies, such as population and education, are addressed across sectors in an environmental strategy or a National Environmental Action Plan (NEAP), which proposes an overall national strategy to protect the country’s environment (Box/Module 4). The budgeting exercise should reflect these macro, sectoral and environmental policies and expenditures and should be monitored to see if the budget is being effectively implemented as planned (Box/Module 5). These environmental action plans, or similar environmental strategies, should provide a framework for integrating environmental considerations into a country’s economic and social development plan (Box/Module 6). Environmental policies are implemented through programs and projects which is the focus of the second part of training.

The analysis of projects are then linked to the macro level. Once instructed on the overall status of the economy, the environment, and a specific sector’s priority areas of interventions on socioeconomic and environmental grounds, investments in programs and projects are usually identified in that sector (Box/Module 7). At this point, environmental assessment screens the most environmentally friendly investment alternatives, and proposes mitigative measures (Box/Module 8). The environmental assessment also includes a social assessment. The cost-benefit of these alternatives extends to the environmental costs and benefits of using appropriate environmental and natural resources valuation tools (Box/Module 9). To the extent that economic analysis cannot include all the environmental and social factors, the analyst may use other indicators, multi-criteria decision-making tools and a participatory approach to identify the most efficient, cost-effective as well as environmentally and socially acceptable project alternatives (Box/Module 10). The investments are monitored for effective management with proper environmental and social audits, and upon completion, are ex-post evaluated (Box/Module 11).

Networking

To sustain the momentum after a TOT event, it was found important to motivate the professionals by helping them to apply their new skills in developing case studies, in undertaking applied research and in getting involved in consulting work. The perspective of establishing themselves as consultants in their new field of environmental economics appears to be one of the most important motivating factors for many participants. However, a problem for professionals in realizing their aspirations was a lack of support from their institutions or organizations at home. For this reason, it became apparent that it was necessary for them to maintain contact with each other through networking.

A new network, *Environmental Economists for Eastern and Southern Africa* (EENESA), funded by SIDA, was emerging as this training program started. Efforts were combined and the network collaborated in the delivery of some TOT workshops. Participants from outside Eastern and Southern Africa expressed the desire to create their own networks. The Francophones created *the Réseau Africain Francophone des Economistes de l’Environnement* (RAFEEN) at a workshop organized by EDI. Quickly, members of this network realized that a multiplicity of networks in environmental economics was inefficient. Consequently, they redefined RAFEEN as *Réseau Africain pour l’Economie de l’Environnement* (in English, the *African Network for Environmental Economics* (ANEE), and established the statutes of a continental network. They coordinated its launching with the support of the *Network for Environment and Sustainable Development* in Africa (NESDA). Initially created to support the NEAP and other environmental strategies in Africa after the Rio Summit, NESDA’s objective is to help African societies achieve environmentally sustainable development. More recently,
several chapters of ANEE were created such as NEEWA (Network for Environmental Economics for Western Africa), NEECA (Network for Environmental Economics for Central Africa), and IONEE (Indian Ocean Network for Environmental Economics).

It is important to note that most of these chapters are sub-networks of professionals interested in environmental economics as a way to improve decision-making and policy processes. It is not only a network of economists, but rather a forum of professional experts. The difference is clear: the participants at the different TOT regional workshops have agreed after a long debate to let their non-economist colleagues join them, provided that they have some background in economics in addition to their professional training in engineering, biology, sociology or related fields. This openness is critical in tackling one of the important environmental issues of our time as the global economy, health, education and other cross-cutting issues. The environment and environmental economics are not the exclusive territory of ecologists or economists but rather is open to anyone who has a stake in the environment and its centrality in defining a quality of life for all.

The program was conceived with this same philosophy and comprises two phases. First, some regional TOT workshops in environmental economics are followed in the second phase by workshops addressing specific national issues geared towards a well-defined audience which can influence the debate on the particular issues considered. Many of the participants to the demand-driven activities that are usually policy-service seminars are non-economists.

The PEE program started in Africa and is being replicated in other regions. The first TOT workshops of the program took place in Washington, D.C., and observers were invited from South America, Russia, Eastern Europe, the Middle East and Central Asia. They each identified the need for a similar program in their respective regions. In South America, a network for Latin America and the Caribbean was initiated, taking ANEE as an example for its organization and the write-up of its statutes. Entitled REALAC (Red de Economia Ambiental para America Latina y el Caraibe), this network is now partially auto-financed through cost recovery and co-financing provided by different donors and a foundation. A similar network, NEEMECA (Network for Environmental Economists in the Middle East and Central Asia) is being initiated in the Middle East and Central Asia, whose objectives are to identify academicians and governmental agencies working on issues of economics and environment and organize training workshops to disseminate current thinking and best practice in the area of environmental economics, natural resources management and sustainable development in these two regions. Also, the PEE program has ongoing activities in Russia and it will begin soon in China.

Epistemic Communities

A follow-up of the program’s activities in environmental economics is essential for two reasons: the complexity of environment policy and the political economy aspects of environmental economics. The environment is complex and encompasses various subject matters requiring many different policy approaches and involving a wide variety of interest groups and institutions. From municipal waste to wilderness conservation and global warming the “environment” is a cross-cutting concern compared to many other political issues. Networks bring cross-support to any member having to conduct research, provide training or advice in environmental economics, or use environmental economics to prepare the analytical work on which good policy decisions must rest. They update each member’s knowledge and, together, professionals linked by a network are more influential in their policy support activities.
Such communities of professionals are sometimes called “epistemic communities.” The term has been used in literature on the sociology of knowledge and has been adapted for use in international relations to refer to a specific community of experts sharing a belief in a common set of cause-and-effect relationships as well as common values to which policies governing these relationships will apply (B. Holzner and J. Marx, 1979). A good illustration of the potential power of epistemic communities to influence environmental policies is given by Peter Haas (1989). In the early 1970s, government leaders of Mediterranean countries became concerned about the increased pollution in the Mediterranean Sea vividly illustrated by Jacques Cousteau. They turned to the region’s marine scientists for information under the coordination of UNEP to develop environmental policies and to draft a treaty to protect the sea. Countries with widely different stages of economic development and cultures, converged after two years to sign the treaty. This convergence was made possible in great part by the community of scientists that formed around this task. They reinforce each other, providing clout and importance in their countries’ political circles.

The importance of creating an epistemic community of environmental economists is important not only in giving technical support to one another, but also to be more effective when conducting a dialogue with their politicians at home. It supports and strengthens the position of the analysts and policy advisors, when they are able to explain that their advice is based on proper analytical work and on other countries’ experiences where a new policy or new environmental instruments have already been successfully implemented or used. The advantage of building such a network of motivated professionals over the strengthening of one or several training institutions in the region is that individual motivation drives the process. The motivated professionals are, in turn, in good position to pull their institutions in the right direction. Many private actors benefit too. They have a chance to interact in a more informal and effective way with counterparts from their governments and they can maintain and use these contacts in their professional lives. They can acquire new expertise that can be rewarded financially.

Raising awareness on environmental issues at the national level is setting the stage for a better understanding of key environmental issues at stake and leads to a more informed and improved legislative process regarding the environment and economic development. Following a national workshop organized by a PEE graduate, Zimbabwe Parliamentarians recommended the creation of an environment committee within the Parliament, and requested a program of environmental workshops directly linked to the environmental legislation to be debated by the Parliament. At the request of the Ministry of Finance in Uganda, a workshop sensitized more than 300 participants (of whom nearly 200 were Parliamentarians) on the environmental dimensions of economic development. This activity resulted in requests for similar workshops at the district level and brought increased attention to the country’s new environment agency, the Uganda National Environment Management Authority--on its functions, mandate, and capacity to deal with environmental problems as the country accelerates its economic growth. Following a PEE program workshop with Parliamentarians in Cote d’Ivoire, an environment committee will be established in the Parliament. The vice-president of the Parliament of Cote d’Ivoire has already invited graduates and EDI to engage in a training program for them at the conclusion of a half-day workshop, at which PEE graduates from Kenya, Zimbabwe and Ghana had addressed some important environmental issues: land ownership, decentralization and economywide policies and the environment, e.g., the impact of the devaluation of CFA on the environment. These are a few examples of the potential impact of an epistemic community of environmental economists.

EDI has continued to provide partial financial support for PEE TOT graduates to undertake worthwhile policy services in their countries such as the ones described above and to sustain some activities of the networks. Soon, however, the donors (EU, The Netherlands and Italy) who helped co-financing the program will want the program to become self-financed. This is already the case with one of the PEE
networks. EDI will, however, keep the link with these epistemic communities through the Internet and insure that they are connected to the Knowledge Management database of the World Bank in Environmental Economics and related fields, which is the a repository of records of knowledge objects within the World Bank to fortify institutional capacity and better link users to specific knowledge areas.

Finally, these networks will become the ideal hub for their members to design distance learning courses that provide proper instruction in the different regions where they are located. EDI will encourage such initiatives. They will also be instrumental in translating international experiences in their particular environmental and policy context. International exchange of good practices within and among networks through the Internet or other means can be organized by experts seeking to solve a particular problem. EDI or any other research group or institution that is a repository of the appropriate expertise can be approached to help facilitate the interchange. Both follow-ups, the long distance course and the exchange of experiences, should contribute greatly to building capacity worldwide in environmental economics and policy.

Conclusions

The training program in the Political Economy of the Environment is an interesting experience in capacity building. The overall objective of the program is to empower professionals from the private and public sectors, NGOs, and academia to train and analyze development policies and investments themselves from the perspective of sustainability. The program promotes a comprehensive understanding of environmental economic techniques and tools that are used to perform project analysis, and economic and sector work. Thus, the program seeks to equip professionals with tools and techniques that are used to: (i) link macro-economic and sectoral policies to the environment and (ii) integrate economic and environmental impact analyses of development projects. The program also supports the creation of networks of policy analysts and of trainers in environmental economics or related fields. The program aims at building the capacity to do the analytical work in environmental economics on which good development policies should be based. When the analytical work is done locally, the policy process is better internalized and the political reform is better accepted.

Some important lessons from the implementation of this environmental capacity building program are that: (i) flexibility is needed when implementing capacity building programs to allow the initial objective and program activities to be reshaped with counterparts who know their needs better as the program unfolds; (ii) individual motivation is key to a successful program, e.g., the desire to become a respected consultant in a new field of expertise played an important role in the success of the program; and (iii) the creation of professional networks reinforces the concepts learned, eases their application in practice as members interchange freely on their respective experiences and help each other in their tasks as trainers and consultants, providing them with more responsibility and influence vis-à-vis their national politicians.

The PEE program integrates EDI’s three broad types of learning activities: training, policy services and knowledge networks. The environmental economics and policy TOT workshops delivered during the first phase of the program are two-week structured workshops to build knowledge and skills in client countries. They are mostly supply-driven and attempt to share the experience of the World Bank in applying environmental economics. The policy services provided by the TOT graduates in the second phase of the program put that knowledge to use on specific issues and instruction is geared towards audiences identified by the graduates. Policy services are demand-driven and EDI supports these initiatives mostly through help in the design of the activities, the provision of international experts if
needed, and partial financing. These tailor-made activities are usually of a shorter duration and are chosen for their potential in inducing a policy change in the country. Finally, knowledge networks, in addition to support teaching institutions, think tanks and research groups among others, contribute to building epistemic communities of professionals who can exert their joint knowledge and influence to change development policies toward sustainability. These three types of EDI activities are well integrated and feed on each other in the PEE program. The program is intended to pursue contact with the networks by relying heavily in the future on distance learning, a new direction in EDI, and by sharing the Knowledge Management System of the World Bank through the Internet, a new direction at the World Bank.

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Rome, ITALY
Tel: 39-6-3691-2595
Fax: 39-6-323-5922