

Poverty Reduction and Environmental Management (PREM) Programme: *Brochure*

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Why PREM?

Too many people still associate environmentally sound development with the curtailment of economic opportunities and growth, rather than their expansion. The sustainable use of natural resources is typically seen as a cost rather than an investment. To overcome this misconception, a better understanding is required of the reciprocal links between poverty and the environment. The Poverty Reduction and Environmental Management (PREM) programme aims to deepen and broaden the exposure of economic researchers and policy advisors in developing countries to the theory and methods of natural resource management and environmental economics. It is envisaged that this will encourage effective policy change in developing countries with the joint goals of poverty reduction and sustainable environmental management.

What is PREM?

The main objective of the PREM programme is to deepen and broaden the exposure of economic researchers and policy advisors in developing countries to the theory and methods of natural resource and environmental economics. It is envisaged that this exposure will, in turn, encourage effective policy change in developing countries, with the joint goals of poverty reduction and sustainable environmental management. By strengthening the research capacity of developing countries, the PREM programme aims to provide more evidence in support of the poverty-environment link.

Guiding principles

In its effort to meet the above objective in the most effective manner, the PREM programme follows a number of guiding principles. These include:

- *Not to 'start from scratch'*: PREM will preferably focus on projects with some preparatory basis or existing background information;
- *South-South interaction*: PREM will provide a link between similar research projects in different developing countries;
- *Urgent policy-relevance*: Participation of policy makers at the initiation, execution and dissemination stage of projects is an essential part of PREM;
- *Invest in high potential*: PREM seeks enthusiastic (younger) economists that are eager to gain experience in the field of environmental economics;
- *Transferral of responsibility*: Over time, more of PREM's organisational tasks will be transferred to regional offices in Asia and Africa;
- *'Learning-by-doing'*: The most effective way to master environmental economics is to conduct policy-oriented research in one's own region and field of interest.

Main activities

The main activities of the PREM programme will be:

- *Research*: Research and policy analysis in environmental and resource economics in developing countries, specifically focused on the relationship between poverty and the environment. To maximise capacity strengthening, the research projects are conducted in a collaborative setting with economists from both developing and developed countries.
- *Training*: This may include short courses tailored to the needs of specific projects, seminars or courses proposed by the regional clusters, or training workshops organised at a programme level.
- *Outreach*: Special emphasis will be placed on involving local policy makers and other key stakeholders in projects at an early stage, for example, through project steering committees, improved targeting, “versioning” and dissemination of research results. This will increase the likelihood of policy impacts.

Who participates in PREM?

Current projects

Divided into two rounds, PREM currently supports 16 projects in 15 different developing countries. The 8 projects of the first round (2003/2004) are being completed presently. A workshop was held at the IVM in Amsterdam where each project presented their final results. At the same workshop the 8 projects of the second round (2004/2005) formally commenced. The projects of the second round are projected to be completed one year later, in January 2006. Table 1 lists the projects of the first and second round.

Table 1 Participating projects in the PREM programme

<i>First round projects (completion by September 2004)</i>			
No.	Country	Title	Contact
1	South Africa	Allocation and exploitation of fishing rights in disadvantaged communities	Dr. Theo Stewart: tjstew@stats.uct.ac.za
2	Mongolia	Pastureland degradation and poverty among herders in Mongolia	Dr. Enkh-Amgalan: cpr@mongol.net
3	South Africa	Poverty Reduction and Climate Change Policies in South Africa	Dr M. Chitiga: mchitiga@postino.up.ac.za
4	Uganda	Combining Welfare and Biomass Information Using Small Area Estimation Techniques: Evidence from Rural Uganda	Dr. Paul Okiira Okwi: pokiira@yahoo.com
5	The Philippines	Developing A System of Payments for Environmental Services: A Case for Philippine Upland Dwellers	Ms. Eugenia C. Bennagen: bennagen@skynet.net
6	Nepal	Economic Incentives and Poaching of the One-Horned Indian Rhinoceros in Nepal	Dr. Bhim Adhikari: bpa100@york.ac.uk
7	India	Poverty and the Environment: Estimating the Effect of Natural Resource Availability on Household Incomes in Rural India	Dr. Shreekant Gupta: shreekant29@yahoo.com
8	Vietnam	Coral Reefs in Vietnam: Economic Value, Resource Dependency, Livelihoods and Coastal Poverty	Dr. Pham Khanh Nam: khanhnam@hcmueco.edu.vn
<i>Second round projects (completion by October 2005)</i>			
No.	Country	Title	Contact
9	Kenya	Poverty, Income Distribution and Vulnerability: The Impact of Land Degradation and Tenure Security	Dr. Jane Kabubo-Mariara: jkmariara@yahoo.com
10	Zambia	Improved natural resource management and livelihoods in the Copperbelt area	Mr. Davison Gumbo: dgumbo@wwf.org.zw
11	Mali	Integral Water Management and Food Security along the Niger River in Mali: Spatial Environmental Economic Analysis	Mr. Bakary Koné: malipin@afribone.net.ml
12	Ethiopia	Water harvesting for poverty reduction and sustainable resource use: Case study of ponds and water wells in Tigray region	Fitsum Hagos: fitsumh@mu.edu.et
13	Pakistan	Perverse Incentives, Deforestation, and The Impact on Communities	Dr. Shaheen Rafi Khan: shaheen@sdpi.org
14	Sri Lanka	Study on the Effect of Human-Elephant Conflict on Various Dimensions of Rural Poverty in Sri Lanka.	Dr. L.H.P.Gunaratne: lhpguna@pdn.ac.lk
15	Tanzania	Design of Integrated Market Based Incentives for Rural Poverty Reduction and Forest Management Around the Coastal Belt Forests in Tanzania.	Godius Kahyarara: gkahyarara@hotmail.com
16	Bangladesh	Sustainable development in flood-basins: Understanding the impacts of pro-poor development strategies on the environment	Dr. A.K. Enamul Haque: ehaque@agni.com

Who can participate in PREM projects?

The original contract provides funding for two rounds of projects. At present, the PREM programme is in its second year, with 8 projects in full swing and the 8 projects of the first round being finalised. As negotiations on a possible third round have still to commence, it is impossible at this time to say if a new round will be initiated. However, if additional funding is found for a new round of projects, the following guidelines should be taken into account.

Funding rules of collaborative research

The PREM programme aims at setting up collaborative research projects between, on the one hand, Northern and Southern researchers, and on the other hand, between Southern researchers. The North-South interaction takes place particularly at the project level where, through collaboration research, knowledge is exchanged. The South-South interaction occurs particularly at the programme level where, through PREM trainings, meetings and workshops, participating researchers from developing countries exchange experiences.

Regarding the funding arrangements of the PREM programme, the following guidelines have been developed:

- For all selected projects, unless alternative sources are available, the PREM programme funds the involvement of the researchers from the eligible developing countries (see next section) to a maximum of €50,000 per project per year;
- PREM also funds the involvement of economic researchers from the Institute for Environmental Studies (IVM) to a maximum of €50,000 per project per year;
- For a limited number of research projects, Northern researchers from other institutes in OECD countries will be funded by PREM to a maximum of €50,000 per project per year. However, the budget allocated for this category of funding is limited;
- Northern researchers that are self-financed have a significantly higher chance of participating in PREM than Northern researchers that rely on PREM funding.

Eligible developing countries

The PREM programme operates in two regions: Africa and Asia. Members of each regional cluster will be drawn from the focal developing countries of Dutch development aid. Table 2 lists the eligible countries for the second round of the PREM programme.

Table 2 Candidate countries for the PREM programme in 2004/2005

Asian candidate countries	African Candidate Countries	
Bangladesh	Egypt	Kenya
Vietnam	Eritrea	Mali
Sri Lanka	Ethiopia	Senegal
Pakistan	Ghana	Mozambique
	Tanzania	Zambia

Eligible persons / organisations

- PREM's main audience is the **economic** research community. PREM does not aim to convert non-economists to environmental economists because they lack the required economic fundamentals. Note that this does not exclude non-economists from participation in the research, but requires that economists take a leading role;
- PREM is seeking researchers that **truly require additional support** to strengthen their capacity to do environmental economic research. PREM is not looking to support well-established economists that are already fully engaged in environmental economic research and are not in need of additional support;
- Our ideal candidates are **enthusiastic (younger) economists** who are eager to gain experience in the field of environmental economics. The applicant should be part of a larger organisation (e.g. university, research institution or NGO), and should have a specific research interest, but should not be heavily constrained by bureaucratic procedures.

Is research the only focus of PREM?

PREM is not a programme that supports science simply for the sake of science. Besides generating valuable research findings, PREM projects intend to strengthen research capacity in developing countries and provide decision makers with valuable inputs in addressing poverty and environment.

Capacity strengthening

A key premise of PREM is that collaborative research is an effective means of achieving capacity strengthening and mobilising existing capacity. Recent reviews of capacity strengthening initiatives have stressed that building up research capacity through conventional means such as formal training is not sufficient. What is needed also is to create the conditions in which research capacity can be utilised and applied to policy relevant questions.

Through collaborative research the PREM programme aims to provide a supportive framework in which Southern researchers can apply the skills and techniques acquired in formal training. However, it is recognised that capacity strengthening is not an automatic result of collaborative research and needs to be planned for at an early stage. It is also important to focus attention on the different dimensions of capacity strengthening in research, to promote the utilisation of existing research capacity and also to move beyond research to programme management and evaluation. PREM incorporates a number of elements designed to promote capacity strengthening and effective utilisation and maintenance of existing research capacity:

- Planning for capacity development in proposal formulation
- Reinforcement of learning by doing
- Formal training opportunities at project and programme level
- Access to literature
- Support proposals for submission to external funding sources

- Involvement of collaborating partners in programme management

Dissemination

A principal aim of the PREM programme is to ensure that research results are disseminated to greatest possible effect. This implies providing wide exposure to researchers involved in the programme, and especially to developing country partners. It also implies making sure that research findings are presented to policy-makers in a timely and intelligible fashion. In some cases this implies direct targeting of policymakers, in others the process is more indirect by communicating results to stakeholder groups such as NGOs that influence policy and/or by consulting with them throughout the project. Dissemination activities are planned at the:

- *Project level:* Because one of the main criteria for PREM research projects is policy relevance, particular emphasis will be put on getting local policy makers, international organisations, embassies and other key stakeholders involved in projects at an early stage.
- *Programme level:* At the programme level emphasis will be on reinforcing project level dissemination and exploiting opportunities to compare and contrast findings from PREM projects on comparable themes.
- *Regional level:* These could include seminars on topics related to PREM research projects targeted at a regional audience or translation of publications into other languages.

How is PREM managed?

Day-to-day administration of the programme is in the hands of the Institute for Environmental Studies (IVM). The most important elements of the PREM programme organisation consist of the: (1) Steering Committee, (2) PREM coordination, (3) Participants and (4) Donors and Funding.

Steering Committee

Overall programme direction is the responsibility of the Steering Committee. This committee meets every six months and reports annually to the programme sponsors. The chairman of the Steering Committee is the dean of the Economic Faculty of the Vrije University Prof. dr. Harmen Verbruggen. The rest of the Steering Committee consists of Hans Wessels (Director Environment Department of the Dutch Ministry of Development cooperation), Prof. dr. Rashid Hassan as the representative of the African environmental economic community, Prof. dr. Mansoob Murshed as the representative of the Asian environmental economic community, and Pieter van Beukering (Programme Director). The specific tasks of the Steering Committee include:

- Decide on programme priorities;
- Review and select (pre-)proposals;
- Ensure overall quality control of the programme.

PREM coordination

Pieter van Beukering, the programme director of PREM, is responsible for the daily management of the PREM programme. His specific duties include:

- Overseeing the portfolio of projects that correspond to each institution and monitoring output and expenditure;
- Identifying appropriate counterpart staff from IVM and other Northern institutes;
- Facilitating development of pre-proposals, proposal development and project execution;
- Liaising with potential collaborating Southern and Northern researchers/institutions;
- Reporting to the Steering Committee on behalf of their respective institutes;
- Carrying out programme activities other than individual projects such as organisation of workshops, regional meetings, programme promotion and expansion, etc.;
- Preparing annual reports submitted by the Steering Committee to the donors;
- Liaising with the peer review group;
- Organising the Steering Committee meetings.

Donors

At present, the Dutch Ministry of Foreign Affairs, Directorate General of International Cooperation (DGIS) is the sole donor of the PREM programme. The PREM programme aims at expanding the number of donors through co-funding arrangements to enable the programme to grow and to continue beyond 2005.

How to contact PREM?

There are several ways to contact the PREM programme.

- *Internet:* The homepage of the PREM programme is the most convenient way to find quick answers to your questions. The homepage is frequently updated. The homepage contains programme documents such as pre-proposal forms, guidelines to applications, etc. Please visit www.prem-online.org.
- *Email or telephone:* Alternatively, you can send an email with your specific request to info@prem-online.org.
- *Postal address:* Of course you can always chose to contact us the old-fashioned way and send your request to:

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Appendix I. Background to the programme

In 1993, a programme of ‘Collaborative Research in the Economics of Environment and Development’ (CREED) was initiated by the International Institute for Environment and Development (IIED), in London, and the Institute for Environmental Studies (IVM), in Amsterdam. Funding for an initial five years, later extended to six years, was provided by the Netherlands’ Ministry of Foreign Affairs (DGIS). Priority research themes during the first phase centered on international trade and the environment, macroeconomic policy and the environment, valuation and incentives for optimal resource management, and poverty and environment linkages.

The main objective of the CREED programme was to strengthen developing countries’ capacity to undertake economic research and policy analysis on environmental and natural resource management issues. The principal focus of the programme was on fostering long-term links between Northern and Southern research institutes, based on collaborative research on topics of mutual interest.

The CREED programme aimed to fill a gap left by other similar initiatives that tend to focus more on providing training courses or small research grants of short duration and are usually targeted at individual researchers rather than teams. CREED aimed to complement these other initiatives by building capacity at an institutional level through long-term partnerships. During the first phase of activities (1993-99), the programme provided a unique opportunity for Southern researchers to apply skills acquired through academic training in policy-relevant research (involving multidisciplinary teams), and to receive feedback from an international network of experienced researchers.

Major achievements of CREED are listed below:

- 19 collaborative research projects were funded under the programme and some twenty institutions in Asia, Africa and Latin America have been supported by CREED.
- A supportive framework was established for Southern researchers to conduct rigorous analysis in the economics of environment and development. This was achieved through formal and informal training, one-on-one mentoring by external reviewers, and overall management of the programme by a Steering Committee consisting of representatives from IIED and IVM, and leading environmental economists from Latin America, Africa, Asia, and Europe.
- CREED projects have made important contributions to policy debates on the valuation of environmental costs and benefits, design of policy instruments and the effect of macroeconomic and trade policy on the environment.
- CREED made a significant contribution to strengthening research capacity in the field of environmental and developmental economics. This was the consensus among participants in a mid-term review of the programme. The success of the programme was also demonstrated by the fact that several developing world partner institutions were motivated to establish permanent environmental economics units to conduct

- research and policy analysis, and have been invited by other organisations to participate in projects on similar themes.
- CREED provided an important outlet for developing world researchers to present their work publicly. 35 working papers were published under the CREED publications series (as of December 2000), in most cases jointly authored by Northern and Southern researchers. These papers were all subject to peer review by internationally recognised experts. They were distributed to a worldwide mailing list of over 1000 people involved in environmental policy and natural resource management. All CREED working papers are also available in full-text versions on the Internet (www.iied.org/creed).
 - CREED research findings have been published as books and in international, peer-reviewed journals, including: Ecological Economics; the Journal of Income Distribution; Environmental and Resource Economics; the Journal of Industrial Ecology; Transport Policy; and Environment and Development Economics. This has helped Southern collaborators achieve the status and reputation needed to secure support for further independent research.

The first 5-year phase of CREED was extended by one year to March 1999, followed by a further extension of publication and dissemination activities to May 2001. However, the feasibility study initially undertaken for CREED envisaged that achieving the programme's long-term objectives might require extension beyond a single phase. Support for this view came from CREED participants and partner organizations, members of the programme's Steering Committee, and external evaluators. In response, a follow-up programme has been formulated. Given the growing importance of the poverty-environment nexus in developing countries, poverty-reduction and environmental management has been chosen to be the central focus of the programme. This new research initiative has been termed the 'Poverty Reduction and Environmental Management' (PREM) programme.

Appendix II. Elaboration on research themes

Poverty, in both absolute and relative terms, has increased dramatically over the last twenty years and is often associated with environmental degradation. It has been estimated that roughly half the world's poor live in environments that are highly degraded. This has led many observers to postulate a causal link between poverty and environmental degradation.

Recently there has been increasing recognition that the linkages between poverty and the environment are complex, and strongly influenced by local demographic, institutional and cultural factors. In some circumstances a positive relationship between poverty and environmental degradation has been identified, lending support to the hypothesis that poor producers will systematically degrade the resources on which they depend if they have no alternatives. In other cases it appears that over-exploitation of natural resources (such as forests and fisheries) is more likely the result of actions of relatively wealthy interests engaged in the pursuit of commerce. Much depends upon the strength of local institutions engaged in environmental and resource management, and the extent to which they represent the interests of poorer groups.

Conceptions of poverty have also changed in recent years, with more attention now given to non-market aspects of deprivation. For example, the World Bank has developed a three-part analysis of poverty that includes not only economic opportunity but also relative vulnerability to risk (security), and influence or access to the levers of power (voice/empowerment). Others have promoted a portfolio concept of "livelihood assets", including human, built and financial capital, as well as natural and social capital, all of which contribute to human well-being. A more subtle understanding of poverty and inequality can help guide focused and practical analysis of the links between environmental quality, environmental policy, and efforts to reduce poverty.

Efforts to reduce poverty and inequality must also consider gender differences. Men and women use resources differently and have different roles in society. To be effective, strategies to decrease poverty and preserve the environment must therefore pay close attention to the impact of disparities between women and men with regard to access to resources and opportunities. Moreover, there is much evidence that gender equality and empowerment of women has positive effects on a variety of other important aspects of development - notably population growth and health.

Notwithstanding the above, addressing gender disparities should not be reduced to a means of ensuring the effectiveness of poverty reduction strategies. Gender equality is a development objective in its own right, and sustainable development strategies must aim to foster women's empowerment and effective participation. This implies involving women and men as partners and allies in formulating and pursuing strategies for more equal societies (OECD 2001, p. IV-7).

Research during CREED has contributed both to changing conceptions of poverty and to an improved understanding of the links between poverty, gender and the environment. Key factors underlying the poverty-environmental degradation nexus were examined critically

and the hypothesis that poverty causes environmental degradation was challenged. A significant gap in the literature was also identified: the role of inequality and conflict among resource users in environmental degradation. Research in Kenya was initiated to address this issue, focusing on conflicts between pastoralists in an area where common property land was being privatised. Some research was also carried out on the distributional impacts of pollution taxes in the transport sectors of Brazil and Costa Rica.

In the PREM Programme it is proposed that there should be further empirical studies of the poverty-inequality-environment nexus, focusing on specific resources, gender issues, policies and populations, in order to provide clear results. Research projects should address poverty, gender and environment linkages both for rural areas and natural resources (e.g. land, forests, wildlife), as well as in an urban context (e.g. water, sanitation, waste, transport, housing). Key issues for further research include:

- The distribution of costs and benefits of environmental change, and how adverse impacts on poorer groups can be minimised. For example, are poorer households disproportionately affected by environmental hazards? Which households in particular and why? This should include specific attention to impacts on the vulnerability, opportunities and empowerment of poorer groups.
- How environmental policies can help to reduce poverty, as well as satisfying environmental goals. Research should consider not only the distribution of financial effects (e.g. household income and expenditure by decile), but also the distribution of environmental impacts (positive or negative).
- The role of social and gender differentiation and conflict in environmental degradation, and potential policy responses. Case studies are needed to provide a basis for comparison with CREED research carried out in Kenya, and to allow for more robust conclusions to be drawn.
- The impact of poverty reduction or income generation programmes on natural resource use and environmental quality, and accompanying measures to avoid unsustainable environmental damage.
- In tackling the above issues, the 'gender dimension' must be addressed whenever it has a specific relevance.

International trade, finance and the environment

International trade and investment have increased dramatically during the past fifty years. There have also been changes in the institutional setting, such as the establishment of the GATT and the WTO, increasing integration of world financial markets, and the growing prominence and power of multinational companies. These trends form part of a wider pattern of change, often grouped under the umbrella term 'globalisation,' the nature of which is hotly debated. Public concern has focused on the impacts of international trade and investment on the development process, poverty and the environment. Proponents of trade and investment liberalisation emphasize the potential efficiency gains and increased access to capital in poor countries that would result from the removal of restrictions. Environmental groups, on the other hand, are concerned that liberalisation will lead to exploitative investment, rapid environmental degradation, inequitable patterns of growth, and unsustainable development.

They point to the market, institutional and political failures that lead many private firms to ignore social and environmental costs.

Research on trade issues has addressed the environmental and developmental impacts of trade liberalisation, the effect of environmental regulations on competitiveness, and the role of environmental criteria as trade barriers. Analysis of foreign investment has focused on the volatility of speculative capital flows, the concentration of foreign direct investment in certain countries and sectors, and the role of foreign portfolio investment in corporate governance. Research results are best described as mixed, due to a lack of empirical studies. For example, there is some evidence that differences in pollution abatement costs can influence company location decisions and trade flows. While foreign direct investment has led to improved social and environmental performance in some cases, there are counter examples from several developing countries. There is evidence that increases in income will, over the longer term, lead to lower levels of certain pollutants that specifically generate local environmental impacts, but the role of trade and foreign investment in this process remains unclear.

CREED made an important contribution to the understanding of trade and environment linkages, by investigating the incidence of environmentally-motivated trade barriers in OECD markets and their effect on environmentally-sensitive exports from developing countries. CREED projects in China and India also examined the social and environmental impacts of international trade in secondary (recyclable) materials. These studies indicate that international trade in recyclable materials allows countries with different comparative advantages to achieve a more efficient allocation of scarce resources. When market failures are significant, however, for instance in the case of adverse health and environmental effects, international trade in recyclables can reduce rather than increase welfare. CREED projects did not directly address the linkages between international investment and sustainable development.

Research priorities for the PREM Programme under this theme are likely to include:

- The impacts of trade liberalisation on environmental quality in developing countries, focusing on different types of goods and services and extending the analysis to social inequities. Research is likely to focus on how institutional failures such as market distortions and lack of enforcement cause trade to be associated with environmental degradation and social deprivation, and on potential mitigating mechanisms to avoid adverse impacts.
- The impacts of environmental regulations and initiatives such as eco-labelling and "fair trade" labels, in terms of market access and income in developing countries. This may include analysis of the trade implications of moves to harmonise environmental standards, linking with the theme of international environmental agreements, below.
- Company-level and sector case studies of the social and environmental impacts of foreign investment in developing countries, and the potential / limitations of 'socially responsible' private investment (e.g. ethical funds) for financing sustainable development in the South.

Economy-wide Policies and Sustainable Development

Macroeconomists have traditionally focused on aggregate economic indicators and relationships, such as the link between inflation and unemployment or the role of monetary and fiscal policy in economic growth. However, macroeconomic analysis is also highly relevant to the study of natural resources and the environment.

Early research focused on the role of resource scarcity in determining relative returns to factors of production (land, labour and capital), while more recent studies have examined the inflationary effects of commodity booms. In contrast, the latest literature concentrates on the environmental impacts of urbanization and industrial growth, or on the acceleration of natural resource depletion when policies are enacted to promote private investment and increase output. In the development arena, much recent research has been prompted by the adoption of more liberal, market-oriented policies by many countries, and in particular by the promulgation of macro-economic stabilization and structural adjustment programmes by the Bretton-Woods institutions and other donor agencies.

Research on the environmental impacts of macroeconomic policy reform in developing countries includes theoretical and cross-sectional analysis, as well as case studies in Africa, Asia, the Caribbean and Latin America. These studies suggest that supply-side and public sector reforms have had mixed effects on the natural environment. While increased competition often leads to more efficient use of natural resources, the scale effects of increased output may swamp these benefits. In other words, where significant environmental externalities exist, first-best macroeconomic policies may not be welfare enhancing. Nevertheless, a distinction may be drawn between macroeconomic policy reforms that have unambiguously positive impacts, from both a (narrow) economic perspective and an environmental point of view, and other reforms that have mixed, uncertain or delayed effects.

Underlying recent debate and research is the failure of conventional macroeconomic models and indicators to account for environmental degradation, including depreciation of natural capital, the damage costs of pollution, and defensive expenditure. A related challenge is to improve understanding of how consumer preferences for different environmental benefits change as economies develop and incomes rise (the so-called "Environmental Kuznet's Curve" debate), and the implications of these changes for environmental policy.

In CREED two case studies focused on this theme. One, in Cote d'Ivoire, assessed the impact of macroeconomic and sectoral policy reforms on environmental quality and the sustainability of economic growth, while the other, in Thailand, focused on the macroeconomic impact of environmental policy reform. In the latter case, a CGE model of the Thai economy was used to explore the macroeconomic and inter-sectoral impacts of alternative forest and water pricing policies. Both of these case studies illustrate the complexity of the linkages between macroeconomic and environmental policy and performance, and the serious challenges involved in modelling these relationships.

Research in the PREM Programme will focus on the following priorities:

- Collaborative research on the links between economy-wide policies and environmental quality, and between environmental policy and macroeconomic performance. Research will focus on the relation between natural resource

- scarcity/abundance and economic development, and between income and the demand for environmental benefits.
- Proactive engagement with economic policy-makers in developing countries to develop practical methods to account for environmental and social impacts, and to devise more sustainable economic reform packages or mitigating measures. This will include collaboration with programmes related to National Strategies for Sustainable Development (NSSD).
 - Integrated assessment of macroeconomic, social and environmental performance, through "green accounting" and new indicators of sustainable development (e.g. "Green GDP", satellite resource accounts, the Human Development Index, etc.).

Valuation and Evaluation of Environmental Benefits

There is a large body of research on the economic valuation of environmental resources in developed countries. Most environmental impacts, from air and water pollution, biodiversity, solid waste and health effects, are being addressed. Gradually, economic valuation techniques that emerged in developed countries are being applied in developing country contexts.

Typically, standard methodologies need to be adapted to this new context. For example, in the developed world, valuation studies have focused on the environment as a 'consumption good' (e.g. recreation), while in many developing countries natural resources have greater importance as 'inputs to production'. Hence, there is a greater reliance on the 'production function approach' to resource valuation in developing countries. Moreover, familiarity and acceptance of economic valuation by local decision-makers in developing countries is still lacking, especially for non-use values. It is therefore important to build capacity in this area.

A number of CREED projects examined issues of valuation of different ecosystems: mangroves, watersheds, rangelands and tropical forests. Most of the studies concentrated on the estimation of use values using change-in-productivity methods. Considerable emphasis was given to modelling biophysical relationships as an input to valuation. In three linked projects in Brazil, Nigeria and Papua New Guinea, the combination of economic valuation techniques with participatory research methods was explored. One project on mangroves in the Philippines looked at valuation in the broader context of decision-making and applied an approach based on multi-criteria analysis.

In the PREM Programme it is envisaged that there will be further work on valuation, particularly where this concerns a type of ecosystem or environmental problem that has received little attention in academic literature to date, or where a key methodological issue (such as benefits transfer) is addressed. Such issues include, for example, valuation of water-related externalities and the estimation of non-use values such as biodiversity. In line with the broadening of this theme it is expected that the following issues will also be addressed:

- Integration of economic valuation with more general evaluation methods such as multi-criteria analysis, cost-benefit analysis, risk assessment and other decision analysis techniques;

- Critical issues related to economic valuation that have been neglected in mainstream valuation research, such as evaluating the impact of changes in income over time and fluctuations in environmental impact;
- Evaluation of the effectiveness of economic valuation studies in influencing environmental policies and multilateral investments;
- Expansion of the stakeholder dimension of economic valuation, specifically addressing the issue of who wins or loses from environmental change.

Market-Based Incentives for Sustainable Resource Management

Markets play a major role in environmental degradation, but can also be a force for environmental improvement. Early research focused on the causes of environmental damage, in terms of market imperfections and policy failures (externalities, public goods, uncertainty, inappropriate fiscal policies, weak enforcement of environmental regulations, etc.). More recently, economists have focused on how to "internalise" environmental values in private production and consumption decisions, through the use of market-based incentives (MBIs). Theory suggests that MBIs can help achieve environmental goals at a lower cost than "command and control" regulations, whilst also creating incentives for on-going innovation and improvement.

Examples of environmental MBIs include:

- pollution taxes and tradeable permits for air and water pollution control in industrial sectors (in the USA and other developed countries)
- deposit-refund schemes to finance solid waste management
- payments for conservation set-aside
- allocation of tradeable water use rights in the agriculture sector
- congestion charges for road transport
- commercial carbon trading and sequestration projects.

Experience has provided important lessons regarding the design of MBIs, so that they are not only economically efficient, but also administratively feasible and politically acceptable. However, despite some promising examples, MBIs have not been widely adopted. Many governments remain concerned about the potential adverse fiscal and distributional impacts of MBIs, and their coherence with existing national and international policies. Use of MBIs in the developing world is in its infancy, particularly in low-income countries.

While governments have been slow to introduce environmental MBIs, voluntary market-based incentives have been introduced in several sectors. These include social and/or environmental certification schemes (e.g. the Forest Stewardship Council), as well as so-called "fair trade" schemes, "socially responsible" investment funds, voluntary environmental reporting by companies, etc.. To judge the overall value of these schemes, it is important to assess their potential adverse impacts on developing world exporters, who bears the costs of improving social and environmental performance, and how performance standards and criteria for certification are determined. As with actual MBIs, awareness and adoption of voluntary initiatives is limited in most developing countries.

Three CREED projects examined the potential of MBIs for environmental management. One study in Costa Rica explored the potential of market-based incentives for watershed protection, in conjunction with a detailed evaluation of the hydrological impacts of forest conversion to cattle ranching. This project was exceptional, not only in its careful estimation of environmental externalities, but also in the way it grounded the analysis of incentive mechanisms in a thorough assessment of local and national institutions. Researchers found that appropriate incentive measures could have an economically significant impact on water supply for irrigation and hydroelectric power generation.

A second project involved case studies in both Costa Rica and Brazil, focusing on the potential of vehicle characteristic taxes as a tool for controlling pollution in the transport sector. The Costa Rican case study concluded that existing taxes favouring the import of used rather than new cars had significant adverse environmental impacts. Equalizing rates of tax on new and used car imports would reduce pollution, but would also have a regressive impact due to the greater reliance of poor consumers on the used car market. The results of this study attracted considerable attention from the media and policy-makers in Costa Rica.

Finally, in India, a further CREED project modelled the effects of introducing alternative incentive schemes for regulating air and water emissions from the steel industry. The results of this project fed into a process of national policy dialogue on industrial pollution prevention, involving stakeholders from industry, government and NGOs.

Priorities for the PREM Programme include the following:

- How to reduce uncertainties and remove barriers to environmental MBIs, using a political economy approach to identify major stakeholders and their interests, and to design strategies for achieving policy change.
- What are the costs and benefits of voluntary market-based initiatives, such as forest certification, and who sets the standards and judges performance. How costs and benefits are distributed along the supply chain, what conflicts typically occur with official government policies and how to minimize them.
- The institutional context underlying resource management and the implications of changes in property right regimes, taking into account distributional issues, for example the impacts of privatisation of utilities.

Appendix III. Capacity strengthening

Planning for capacity development in proposal formulation

One of the aims of funding the proposal development stage is to allow collaborating partners time to discuss capacity needs and how the project could address these. One of the requirements for proposal approval will be the development of a detailed plan for capacity strengthening plan. The project budget will also make provision for these activities from the outset.

Reinforcement of learning by doing

Learning by doing is an important element of capacity strengthening and utilisation in collaborative research. However, the extent to which it takes place depends on how research tasks are allocated and planned and on the composition of research teams. If developing country partners are always allocated the task of collecting data while their Northern partners concentrate on the methodology and analysis the capacity strengthening will be limited.

In the PREM programme learning by doing will be reinforced in two ways. Firstly, by planning for capacity strengthening and utilisation at an early stage. Secondly, by ensuring that collaborating partners have complementary expertise and that there is not excessive reliance on the expertise of one or two individuals. A blend of junior and senior researchers will be required to maximise the opportunities for transfer of knowledge. Criteria for selection of projects will incorporate these requirements.

Formal training opportunities at project and programme level

Project teams will be encouraged to identify opportunities for training to enhance project execution and to make provision for these in project budgets. There may be situations where short courses to address a specific aspect of a project or to provide the expertise necessary to try out a new approach can be extremely useful. Opportunities for training at programme level to target a number of institutions in the programme will also be identified by regional clusters and discussed at the yearly meetings. Proposals for training workshops will then be submitted to the Steering Committee.

Access to literature

A key element of capacity strengthening is the provision of up-to-date literature on key research themes. This was a valuable aspect of collaboration on CREED projects during CREED, but requires more emphasis. It is recognised that requirements vary depending on the nature of the research and that careful targeting is necessary.

For this reason, both programme-wide and project specific provisions will be made in the PREM programme to facilitate literature access. This provision may take several forms. Firstly, if requested by the Southern partners, each collaborative research project will be provided with a 'one-time' or 'two-time' support of a literature search by the PREM programme. This will bring the project partners up to date about the latest literature. Secondly, the PREM programme will create links to relevant literature on the six themes on the PREM homepage and, if requested, subscribe partners to important environmental economic literature sites. Not only will this support research partners, it will also provide

additional exposure to the PREM programme. Project teams will be encouraged to plan systematically for literature access and include this in project budgets and capacity strengthening plans.

Encouraging proposals for submission to external funding sources

An important aim of the PREM programme is to encourage links between Southern research institutes, and joint applications for external funds by these institutes. In this manner PREM will function as initiator of long-term research capacity in developing countries. This focus on external funding will be particularly important in the later years of the programme. Southern institutes in the PREM network will be encouraged to collaborate with other Southern institutes in the same or other clusters, and to develop new joint project ideas. They will be supported financially in the development of concept notes and joint proposals. The PREM programme will encourage counterparts to submit proposals to external funds by advising them of calls for proposals from external grant sources. The PREM homepage can provide an important resource, in this respect. It may also be appropriate to provide training in writing project proposals.

Involvement of collaborating partners in programme management

Capacity in the economics of environment and development refers not just to the ability to conduct research, although this is clearly a key element, but also to broader issues such as project and programme management, evaluation and project selection. For this reason it is proposed to give collaborating partners greater participation in programme management at the regional level and also at the programme level. The designation of regional cluster coordinators and their inclusion in the Steering Committee will contribute to this objective.

Co-funding

The PREM programme will also encourage proposal development for submission to other funding sources (e.g. the World Bank, European Commission and other multilateral agencies, bilateral donors, foundations, private companies, etc.) to ensure the sustainability of institutional linkages. This will be particularly important in the later years of the programme. Southern institutes in the regional clusters will be encouraged to collaborate with each other in the development of project ideas and will be supported financially in the development of joint proposals. They will also benefit from feedback on concept notes and proposals in the regional cluster meetings.

Appendix IV. Dissemination

A principal aim of the PREM programme will be to ensure that research results are disseminated to greatest possible effect. This implies providing wide exposure to researchers involved in the programme, and especially to developing country partners. It also implies making sure that research findings are presented to policy-makers in a timely and intelligible fashion. In some cases this may mean direct targeting of policymakers, in others the process may be more indirect by communicating results to stakeholder groups such as NGOs that influence policy and/or by consulting with them throughout the project.

Dissemination activities will be planned at both project level and programme level and in some cases at regional level. The approach will be similar to that of CREED 1 with attention focused on the Working Paper series but with some additions based on experience to-date.

Project Level Dissemination

As one of the main criteria for PREM research projects is policy relevance, particular emphasis will be put on getting local policy makers, international organisations, embassies and other key stakeholders involved in projects at an early stage, e.g. through project steering committees, together with improved targeting, “versioning” and dissemination of research results. Researchers will be encouraged to plan for dissemination to target audiences and to make this explicit in budget provisions. Early involvement of key stakeholders should help to ensure that the final research results are relevant. Other project-level activities that will help to increase the likelihood of policy impact include:

- Project proposals will be expected to include detailed sections on dissemination, identification of target audiences, and assessment of the need for and most appropriate means of stakeholder involvement.
- Project managers will be required to budget time for collaborating researchers to write up results for publication in journals, popular magazines, conference papers and to hold briefing sessions with policymakers, government etc..
- Project teams will be encouraged to hold multi-stakeholder workshops where appropriate.

Regional Level Dissemination

The regional clusters will constitute an additional focus for dissemination in the PREM programme. They will be invited to submit proposals to the Steering Committee for regional dissemination activities. These could include seminars on topics related to PREM research projects targeted at a regional audience or translation of publications into other languages. In addition, coordinators of other regional environmental economics networks will be invited to regional cluster meetings.

Programme Level Dissemination

At the programme level emphasis will be on reinforcing project level dissemination and exploiting opportunities to compare and contrast findings from PREM projects on similar themes.

Working Papers

The Working Paper series will be maintained and expanded. This is generally considered to have been successful in providing timely and policy relevant outputs from the projects in the programme and in providing an outlet for researchers in developing countries to disseminate the results of their work. The PREM Secretariat will continue to be the first point of contact for researchers wishing to access project final reports.

Other Dissemination Channels

Emphasis will be given to other types of outputs and other channels of dissemination:

- Final reports, Working Papers and other technical reports related to the projects will be made available on the Internet. This will greatly increase the number of people who can be reached and will allow targeting of the free mailing to those researchers who do not have access to the Internet.
- Provision will be made for edited volumes of papers on common themes. This will allow lessons to be drawn from projects engaged in similar research.
- A programme of workshops is planned to bring together PREM researchers working on similar themes. Where appropriate, researchers from other programmes or networks will be invited. Topics and scheduling will be agreed at an early stage and regional clusters will be invited to propose topics.
- Options for organising panel sessions on PREM themes at major conferences on environmental economics such as ISEE will be explored.
- It is not always possible to predict at the outset of a project all the types of dissemination opportunities that will arise, hence a separate budget allocation will be made at programme level. Project teams will be invited to apply to this fund for attendance at conferences or for writing up additional outputs.

Self-Evaluation

Provision will be made to bring all participants in the PREM programme together for a workshop to discuss progress on the programme and to consider strengths and weaknesses and areas for improvement. This would draw from the successful model adopted in CREED. The Mid-Term review held in August 1996 stimulated important debate about the programme and generated useful suggestions for strengthening various aspects of it.