

*A Better Life...  
with Nature's Help*

# Attacking Poverty While Improving the Environment: Practical Recommendations



POVERTY & ENVIRONMENT INITIATIVE

# The Poverty and Environment Initiative

There are many reasons to be optimistic about the future. More people are better fed and housed than ever before, global literacy rates are increasing and more people have access to better health care. Despite these significant gains, however, the need to arrest the increase in poverty while at the same time reserving the current trends of environmental degradation remains one of the world's greatest challenges. It is essential to tackle these two challenges simultaneously, since it is abundantly clear that the poor suffer disproportionately from the ill effects of environmental decline.

As part of the effort to meet these challenges, the United Nations Development Programme (UNDP) and the European Commission (EC) have embarked upon the Poverty and Environment Initiative. The goal of this Initiative is to provide a forum for experienced practitioners, policy-makers, researchers and politicians to share their knowledge and identify solutions. Drawing on successful development interventions from all over the world, this effort will result in recommendations for global advocacy as well as research priorities and practical policies that promote both poverty eradication and sound environmental management. Thus, a "win-win" situation for poor people and the environments in which they live will be fostered.

The Initiative allows UNDP and the EC to build upon, and create synergies among, commitments made at the United Nations Conference on Environment and Development (the Earth Summit) in Rio de Janeiro in 1992, the World Social Summit for Development in Copenhagen in 1995, and other global conferences of the 1990s.

## Publications

Attacking Poverty While Improving the Environment: Toward Win-Win Policy Options

Attacking Poverty While Improving the Environment: Practical Recommendations

A Better Life... With Nature's Help: Success Stories. Poverty and Environment Case Studies, Vol. 1, various authors

### *Paper series*

1. Links Between Poverty and the Environment in Urban Areas of Africa, Asia and Latin America, by David Satterthwaite
2. Community and Household Water Management: The Key to Environmental Regeneration and Poverty Alleviation, by Anil Agarwal and Sunita Narain
3. Poverty-Environment Interactions in Agriculture: Key Factors and Policy Implications, by Sara J. Scherr
4. Energy as it Relates to Poverty Alleviation and Environmental Protection, by Ellen Morris and Sudhir Chella Rajan
5. Economic Reforms, Globalization, Poverty and the Environment, by David Reed and Herman Rosa
6. Forests and the Poverty-Environment Nexus, by J.E.M. Arnold and Pippa Bird

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One individual deserves gratitude and recognition above all others. John Ambler worked tirelessly to present the results of the discussions and analyses coherently and consistently. In so doing, he contributed his own considerable knowledge, analytical skills and pragmatic approach. Without him, the ministerial meeting would not have been a success nor would this publication have existed.

The commitment to grapple with difficult and complex problems demonstrated by the Forum of Ministers on Poverty and Environment is admirable. The EC and UNDP would like to commend those ministers who show the political will and desire to take forward this agenda at home and internationally.

# Preface

UNDP and the EC established the Poverty and Environment Initiative to contribute to the efforts of the international community to meet its self-imposed challenges at the UN conferences. Part of this complex process involves the dissemination of practical approaches and strategies that merge technical solutions with political realities, so as to achieve practical and demonstrable results.

But the Initiative has a larger goal to spur fundamental shifts in thinking and practice about reducing poverty and environmental degradation. This is an ambitious aim that is difficult to achieve. Yet one reality is evident: leadership is key. To this end, the Forum of Ministers on Poverty and Environment was established. The Forum is comprised of some 40 ministers – hailing from all parts of the world and representing a variety of fields – who have demonstrated a commitment to poverty reduction and sound environmental management. Forum members can be powerful and compelling advocates for changes in thinking and practice at home and in the international arena.

This publication is the result of preparations for and discussions during the first full meeting of the Forum of Ministers on Poverty and Environment held in New York on 29 September 1999. It contains a brief report on the deliberations during the Forum meeting, a set of policies and instruments, and a background essay that details policy recommendations in various sectors. Together, these various pieces provide a practical overview as to how the international community can move towards the goals of poverty eradication and environmental regeneration.

It is our hope that the Practical Recommendations will provide a useful input to national decision-making processes and that they will be implemented widely and successfully in countries at the national and local levels. The Initiative will benefit from learning of “success stories.”



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# Chairs' Report

Forum of Ministers, 29 September 1999

*This report is presented by Mark Malloch Brown, Administrator, UNDP and Poul Nielson, Commissioner for Development and Humanitarian Aid of the European Commission as co-chairs, on behalf of the members of the Forum of Ministers.*

Eliminating poverty is not simply a moral issue. Poverty is the root cause of many global problems currently facing the international community and is inextricably linked to environmental degradation. To address practical ways to implement and develop the commitments made by countries at the UN conferences of the 1990s, both the EC and the UNDP have launched the Poverty and Environment Initiative. To provide strong political leadership on these issues at the global and national levels, a group of ministers formed a Forum within the Initiative, which met in New York on 29 September 1999. Discussions included identifying what practical actions can be taken to advance policies whereby partnerships with the poor can be created. The goal of these partnerships would be to secure livelihoods and healthier environments for the poor. We agreed that these policies can pursue these two goals simultaneously and that improved governance is essential to achieving them.

Many misconceptions have been perpetuated over the years about the relationship between poverty and the environment. Some refer to this relationship as a “vicious cycle” or a “downward spiral.” Various experiences show that neither poverty nor population growth necessarily lead to environmental degradation.

Six specific strategies were identified and discussed. Issues covered were:

- the protection and expansion of the current asset-base of the poor;
- co-management and co-investment with the poor;
- the issues facing the poor in urban areas, such as pollution and poor living conditions;
- inadequate infrastructure and technological development;
- increased market access; and
- resource transfers and rewards for environmental services to the poor.

For each strategy, we discussed practical recommendations of policies and instruments that could be adopted and promoted within our governments and institutions, as well as by other private and non-governmental actors. We agreed that the policy recommendations held great promise. We recognized that the strategic interventions that are appropriate for any country or region depend on the nature of the environment, the local characteristics of poverty, and the possibilities for developing and strengthening state and civil society institutions, as well as the relationship between these factors.

The Forum also agreed that while much can be achieved through re-directing investments and resources, additional resources will help to catalyze reforms and changes. Indeed, both are necessary.

National actions are imperative; yet they can be hampered or helped by the actions of the international community. These international dimensions merit further analysis in the context of poverty and environment, with a view to proposing greater coherence between policies at the national and international levels. Such analyses should be carried out under the Initiative. We gave our strong support to the continuation of the Initiative in general.

The Forum agreed that there were several steps that we could take as a group of concerned and committed decision-makers. We agreed:

- to play a leadership role to promote changes at the national and international levels;
- to try to implement the approaches through our domestic policies, and through our aid partnership programmes;
- that forthcoming international meetings (in particular CSD -8, WSSD +5, and the ten-year review of the Rio Conference) offer opportunities to highlight the substance and potential of the strategies, as well as the actions our countries have taken to fight poverty and improve the environment;
- that the work under the Initiative and the Forum should be fully supportive of CSD;

- to consider meeting again prior to the April 2000 session of CSD;
- that the Forum and the Initiative require sustainable follow-up at the global, regional and national levels;
- that ongoing activities in the field should be followed, evaluated, and experiences shared on a regular basis, inter alia through the Initiative website;
- on the need to continue working as a newly created network and to constitute a strong advocacy group in the international arena. It was deemed desirable to meet in a year's time to discuss tangible progress made since this meeting; and
- that collecting success stories in a series of "good practices" should be continued.

The EC and UNDP are committed to continue the Initiative and, through this, to serve and facilitate the Forum.

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Commissioner for  
Development and Humanitarian Aid, EC*

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# Attacking Poverty While Improving the Environment: Practical Recommendations\*

## Introduction

Questions related to poverty and the environment were central to the debates at the United Nations Conference on Environment and Development in Rio de Janeiro, the World Conference on Human Rights in Vienna, the International Conference on Population and Development in Cairo, the Conference on Small Island Developing States in Barbados, the World Summit for Social Development in Copenhagen, the Fourth World Conference on Women in Beijing, and the United Nations Conference on Human Settlements in Istanbul. These

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\* This document was prepared for the 29 September 1999 Forum of Ministers' Meeting as part of UNDP-EC's Poverty and Environment Initiative. A fuller explanation of the rationale behind the practical recommendations in this document is provided in the paper "Attacking Poverty While Improving the Environment: Toward Win-Win Policy Options." A detailed executive summary of this document is also available. Further detail from specific sectoral studies are also available under the Initiative

issues are also fundamental to the ongoing work of a variety of other international bodies, such as the Commissions on Sustainable Development and Social Development.

Indeed, in the dozen years since the 1987 Brundtland Commission report, *Our Common Future*, was published, the rationale for addressing poverty elimination and environmental regeneration objectives together has been articulated convincingly in numerous fora. But although the international community has increasingly recognized the importance of tackling the mutually reinforcing issues of poverty and environmental degradation in an integrated fashion, doing so has proved difficult, and there are those who still doubt that it is possible. Fortunately, however, there are notable exceptions. Successful experiences from all regions of the world point the way forward.

This brief note was first prepared for UNDP-EC's Forum of Ministers' meeting on 29 September 1999 on the Poverty and Environment Initiative. The purpose of this paper is to highlight those concrete policy measures that are based on successful experiences and which are designed to foster both poverty eradication and environmental regeneration. Since the Forum, this paper has been revised to more fully incorporate the range of country experiences presented at that meeting. While not constituting a precise consensus, because each country has its own particular conditions and constraints to confront, it does reflect a shared vision that the Forum's Ministers endorsed in broad terms.

# Background

The poor often rely on the environment for their livelihood and survival strategies. At the same time, they are affected by the way others around them use environmental resources. Moreover, because most natural resources are exhaustible or degradable, improved management of environmental resources is needed for both rich and poor populations which continue to grow in numbers and consumptive habits.

But unfortunately, the link between poverty and environment is often mechanically characterized as a “vicious circle” or “downward spiral.” Population growth and inadequate resources are presumed to force poor people to overuse the environment. In turn, the degradation of these resources further impoverishes them. While this can and does happen, as an overarching model it is highly simplistic. In fact, various experiences show that:

1. Poverty does not necessarily lead to environmental degradation. The linkages between poverty and the environment are complex and require locally-specific analysis to be understood. There is no simple causal link.
2. Population growth does not necessarily lead to environmental degradation. While initially degradation can occur as population increases, what happens next is context-specific and can be influenced by policy.

Based on experience from around the world, there are win-win options that can build partnerships with poor

people for creating both more robust livelihoods and healthier environments. These options simultaneously pursue two goals:

1. reduced poverty and better social equity; and
2. enhanced environmental quality.

# Implementing Better Policy

Implementing pro-poor and pro-environment policy requires both conceptual and operational shifts by government agencies, international development organizations, NGOs and other civil society actors, and the private sector. Making these shifts is critical for making improved strategic interventions.

## Conceptual shifts

Building partnerships with poor people requires a commitment to stakeholder participation in decision-making, as well as a willingness to experiment and fine-tune solutions to local conditions. But there are also some fundamental conceptual changes that need to take place in the way policy-makers at all levels regard poor people. Some of these shifts include:

- Empowering the poor as actors in identifying their problems and seeking their own solutions, without assuming they are the problem.
- Engaging poor people as partners, not as beneficiaries, and using people-centered frameworks for planning and implementation.
- Creating incentives for the poor as well as for private-sector entrepreneurs so as to mobilize resources for poverty eradication and move away from simply exhorting poor people to mobilize resources or from providing all the resources by the State.

- Seeing the value of giving the poor real rights and ownership of assets, not just a “sense of owner-ship.”

## **Operational shifts**

Certain operational shifts are also required for success. These include:

- Counteracting the influence of power strongholds through governance reform, as expressed through improved accountability, transparency, and representation.
- Moving to decentralized planning and improved revenue-sharing mechanisms that facilitate participation and maximize resource mobilization. In turn, these ensure that services will be more relevant to the needs of communities and households.
- Shifting toward more pluralistic approaches to decision-making, which incorporate a range of stakeholders and can accommodate different interests and potential conflict. In addition, it is critical to develop community-based decision-making and transparent dialogue.
- Employing a gender analysis lens that takes specific note of the roles of men and women and their relationships, and which seeks to ensure that women are not further marginalized through new policies and programmes. Employing similar lenses for assessing the impact of programmes on other vulnerable groups, like children, the aged, and the infirm.

- Revising the criteria for determining who are the people living in poverty, so as to reflect not just income levels of the poor, but also their vulnerability, their access to assets, and their levels of other basic social indicators like health and education.

## Supportive conditions

However localized they may be, efforts to eradicate poverty and improve the environment always take place within national and international frameworks. At the national level, such efforts are enhanced when supportive institutions and policies are in place. A supportive environment includes elements such as good governance (including an impartial judicial system), redistributive taxation systems, universal and appropriate education, adequate health and reproductive health facilities, and freedom from armed conflict. The policy options presented in this paper do not absolutely depend on all these elements as pre-conditions for success – many win-win stories under very adverse circumstances can be cited from around the world. But the more fully these conditions are met, the easier it is to pursue and propagate positive-sum outcomes. The general lesson has been that governments can act now, but that it is also important to simultaneously work on improving the larger institutional environment.

Still, the keys to success are often found in establishing more participatory institutional frameworks and supportive regulatory systems – in short, more responsive governance systems. Improved governance is the fulcrum upon which hinge efforts to both reduce poverty and to achieve better social equity while enhancing environmental quality.

And, at a more generic level, including the poor in the political process is essential to strengthening the political will that is necessary for achieving win-win solutions. At both the local and national level, greater involvement of NGOs, community-based organizations and the private sector can often facilitate reaching these goals. Involvement of the poor – as well as organizations acting on their behalf – is critical so that local and national elites do not have the power to appropriate State revenues for their own benefit.

## **Strategic interventions**

The strategic interventions that are appropriate for any country or region depend on the nature of the environment, the local characteristics of poverty, and the possibilities for developing and strengthening institutions of both the State and civil society. Not every policy option presented here is feasible or appropriate for all conditions. Most countries have a diverse resource base and face a variety of conditions in different parts of the country as well as in different sectors. Poverty and environment have many faces, and diverse conditions call for varied and flexible policies. Even where appropriate policies can be identified, financial or human-resource constraints may limit practical possibilities. The options presented here are intended to provide a menu of alternatives that can be used as a basis for adapting policies to local conditions and capabilities. Many of these options can be tried at a local level and scaled-up to larger levels as experience is gained. However, almost all options require training, adaptation and transfer of new technologies, and institutional strengthening in order to be successful.

It is also important to note that many of the options presented here depend on reallocating investments toward the poor and not necessarily on raising investment levels overall. Although increased financing from the State is required in some cases, much can be accomplished immediately with existing human and financial resources. Reallocating existing financial resources to viable projects that benefit the poor is one way. The political process of reallocating funding toward projects that benefit the poor and the environment can be made easier if “pro-environment/pro-poor” guidelines are used for public investments. This includes properly valuing long-term environmental benefits – “greening the internal rate of return” – and weighting investment criteria to recognize the fact that a particular monetary return on investment for the poor is more valuable to increase net well-being than the same return on investment is for the non-poor. Allocating resources for the poor is not a matter of giving handouts. Investing in the poor can be done in a way that helps them mobilize their own resources. Not only does this create ownership by the poor, but also a much larger net gain for society as a whole.

The following pages illustrate, in matrix form, some promising options distilled from the various studies and workshops held thus far under the auspices of the Initiative. The matrices specify some of the fiscal, institutional, and legal or regulatory requirements that are needed to implement policy. Six strategies that governments and other development actors can pursue are highlighted:

- protecting the current asset base of the poor;
- expanding the asset base of the poor;

- co-managing and co-investing resources with the poor;
- promoting infrastructure and technology development;
- prioritizing poor areas and compensating the poor; and
- reforming markets and planning.

The list of policy options and instruments below is not meant to be exhaustive. But it is indicative of the major fields in which new structures and processes are needed for win-win solutions. They also concentrate on actions that specifically address the poverty and environment nexus. There are other ways in which poverty also can be attacked, such as building up financial capital through women's micro-savings and credit programmes. However, these are not included here.

For ease of presentation, the concepts are simplified and condensed. The actions that need to be taken have been somewhat arbitrarily organized along fiscal, institutional, and legal/regulatory dimensions, although these facets are usually inextricably intertwined. For a more detailed explanation of the background and rationale for the suggestions included here, refer to the companion document "Attacking Poverty While Improving the Environment: Towards Win-Win Policy Options."

## Strategy 1: Protecting the current asset base of the poor

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>A. Protect access that the poor already have to critical resources such as land, water, trees, pastures, fishing grounds, wild game, or small quarries, especially in cases where the poor are in a weak position to resist appropriation of their assets by more powerful or more technologically advanced actors).</p>	<ul style="list-style-type: none"> <li>• Reallocate budget to ensure resources for monitoring in areas where the non-poor often take the resources of the poor</li> <li>• Reallocate budget to ensure funds for monitoring of activities that degrade the environment on which the poor depend</li> <li>• Reallocate budget to allow inclusion of local groups in planning</li> <li>• Earmark funds for resource inventory studies and cadastral surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Develop/empower community oversight and monitoring institutions</li> <li>• Strengthen mechanisms for feedback from communities to enforcement agencies</li> <li>• Develop public participation forums to discuss any new State plans for resources on which the poor depend</li> <li>• Improve dispute resolution mechanisms</li> <li>• Enhance reward systems for govt. employees who catch violators</li> </ul>	<ul style="list-style-type: none"> <li>• Formally recognize customary law and local-use rights, where appropriate</li> <li>• Legally recognize local user groups</li> <li>• Mandate inclusion of local groups in planning that impact local resources</li> <li>• Strengthen penalties for violation of the rights of the poor</li> <li>• Enact new and enforce existing anti-corruption legislation</li> <li>• Strengthen conflict-of-interest laws</li> <li>• Reduce discretion and monopoly of public officials</li> </ul>

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>B. Protect the environment upon which the poor depend, especially in cases where non-poor groups pollute (e.g., through industrial effluents, agricultural run-off) or degrade (e.g., through commercial forestry) the environment</p>	<ul style="list-style-type: none"> <li>• Earmark funds for resource quality monitoring</li> <li>• Reallocate budget to ensure monitoring and prosecution of violations</li> <li>• Institute user-fees for the non-poor for natural resources and public services</li> </ul>	<ul style="list-style-type: none"> <li>• Develop State-citizen partnerships for monitoring of fragile or sensitive areas</li> <li>• Develop and promote a code of ethics and standards for industry</li> <li>• Improve dispute resolution mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen pollution laws and their enforcement</li> <li>• Limit access of commercial enterprises to fragile lands (e.g., steep hillsides, mangroves)</li> <li>• Limit arbitrary discretion of government regulators</li> </ul>
<p>C. Develop insurance systems or emergency work programmes for the poor (where losses due to drought, flood or other catastrophes may force the poor onto even more marginal and/or fragile lands)</p>	<ul style="list-style-type: none"> <li>• Partially finance insurance system from premiums</li> </ul>	<ul style="list-style-type: none"> <li>• Develop insurance institutions</li> <li>• Develop emergency public works units</li> <li>• Institute transparent processes to reduce potential for graft</li> </ul>	<ul style="list-style-type: none"> <li>• Develop means test criteria to determine eligibility for emergency relief</li> </ul>

## Strategy 2: Expanding the asset base of the poor

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>A. Transfer asset ownership to poor groups, such as small irrigation systems, community forestry rights, coastal fishing rights, etc. (In cases where state or private management has been sub-optimal and cohesive local user groups can be formed or revitalized)</p>	<ul style="list-style-type: none"> <li>• Work with community to provide selected improvements before turnover</li> <li>• Earmark funds for community organizing efforts</li> <li>• Provide cash incentives for environmental enhancement</li> <li>• Reduce govt. management budget</li> <li>• Guarantee commercial credit for eligible groups</li> <li>• Earmark funds for auditing and monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Improve communications mechanisms with govt. agencies</li> <li>• Collaboratively develop performance standards and monitoring institutions to assess impact after turnover</li> <li>• Reorient some credit institutions toward poor groups to assist them after turnover</li> <li>• Control level of costs/benefits under control of government officials</li> </ul>	<ul style="list-style-type: none"> <li>• Provide legal status for self-governing user groups</li> <li>• Make contracts with local groups for improvements</li> <li>• Establish penalties for failure to meet management and maintenance standards after turnover</li> </ul>
<p>B. Transfer assets to poor individuals, e.g., land reform or access rights to State land (in cases where large State or private landholdings systematically limit access for the poor and lead to sub-optimal resource use)</p>	<ul style="list-style-type: none"> <li>• Compensate owners for land expropriation</li> <li>• Provide credit for the poor to purchase distributed land</li> <li>• Earmark funds for cadastral surveys and resource inventories</li> </ul>	<ul style="list-style-type: none"> <li>• Develop new taxation systems for farmers on redistributed land</li> <li>• Develop institutions (e.g. credit) to help the poor best utilize their new resource</li> <li>• Improve extension and monitoring systems for small farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Enact or enforce laws regarding land ceilings according to land quality</li> <li>• Develop and/or enforce laws related to violation of land ceilings</li> <li>• Expand access rights on State land (e.g., rental, lease, harvest rights) for poor families</li> </ul>

### Strategy 3: Co-managing and co-investing resources with the poor

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p><b>A. Co-manage natural resources</b> (in cases with multiple, conflicting stakeholders, or when the technical or monitoring requirements of managing the resource are very high – as when the resource is spread over large areas or across boundaries or where pollution or depletion monitoring require sophisticated techniques)</p>	<ul style="list-style-type: none"> <li>• Share revenues and costs with local user groups</li> <li>• Shift govt. budget from management and more toward monitoring and supervision</li> </ul>	<ul style="list-style-type: none"> <li>• Involve local people in decision-making</li> <li>• Give the poor greater control over output and more responsibility for protecting resources</li> <li>• Retain overall central control while raising govt. agency accountability</li> </ul>	<ul style="list-style-type: none"> <li>• Revise laws to empower user groups</li> <li>• Develop accountability regulations for govt. agencies</li> <li>• Enact revenue-sharing rules</li> <li>• Develop performance indicators and link them to management rights</li> </ul>
<p><b>B. Co-invest with the poor to improve resources they already own</b> (in cases where local financing is a constraint to long-term investments (e.g., land leveling) or to overcome high initial costs for better-quality services (e.g., for better sources of energy or water), or to offset risks associated with new technologies)</p>	<ul style="list-style-type: none"> <li>• Allocate funding for poor areas or for technologies that will benefit the poor</li> <li>• Use non-local funds to mobilize additional local resources</li> <li>• Spend on research to improve technologies and reduce costs</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain poor people's rights and responsibility to manage the resources</li> <li>• Strengthen local user groups</li> <li>• Improve participatory planning processes</li> </ul>	<ul style="list-style-type: none"> <li>• Develop regulations for co-funding between the poor and the State or private sector</li> <li>• Enable contracting with local, sometimes non-formal groups</li> <li>• Develop transparent budgeting and financial procedures</li> </ul>

## Strategy 4: Promoting infrastructure and technology development

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>A. Improve rural infrastructure to benefit the poor, especially where the poor are isolated</p>	<ul style="list-style-type: none"> <li>• Redirect investment toward common rural infrastructure (e.g., transport and communication)</li> <li>• Encourage private investment and competition with govt. services (e.g., transport) to reduce costs and expand coverage</li> </ul>	<ul style="list-style-type: none"> <li>• Involve local people in planning</li> <li>• Establish local maintenance system</li> <li>• Strengthen local rights to prevent appropriation by new entrants</li> <li>• Improve information about opportunities in other areas</li> </ul>	<ul style="list-style-type: none"> <li>• Revise govt. funding regulations to better respond to poor areas and groups</li> <li>• Limit access of outsiders to newly opened areas until the poor can develop their own institutions</li> </ul>
<p>B. Improve environmental conditions where the poor live, especially in urban areas where sub-standard housing and poor quality of the surrounding environment are major factors in reducing the health of the poor</p>	<ul style="list-style-type: none"> <li>• Improve delivery mechanisms for water, sanitation services and energy</li> <li>• Earmark funds for monitoring environmental quality</li> <li>• Make local credit available for housing improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen capacity of local govt. to meet water and sanitation and health services needs</li> <li>• Develop demand for improved urban transport systems</li> <li>• Develop community organizations</li> <li>• Allow private companies to provide public services</li> </ul>	<ul style="list-style-type: none"> <li>• Mandate minimum environmental standards for municipalities</li> <li>• Reform zoning to allow poor to live near their work</li> <li>• Improve tenurial rights for the poor</li> <li>• Create enabling environment for public-private partnerships for service delivery to the poor</li> </ul>

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>C. Develop affordable, environmentally sound technology for the poor, especially where new low-cost technologies are needed for such requirements as energy, sanitation, water purification, crops in disadvantaged rural environments</p>	<ul style="list-style-type: none"> <li>• Give tax breaks on certain types of pro-poor, pro-environment research</li> <li>• Give incentives to power developers to use environmentally sound, poor-friendly technology options</li> <li>• Increase research for the resources upon which the poor depend most</li> <li>• Provide incentives for private-sector companies to develop environmentally sound technologies and products that address the needs of the poor</li> </ul>	<ul style="list-style-type: none"> <li>• Develop aggressive marketing institutions for proven products</li> <li>• Develop new pricing schemes, such as flat-rate/low-cost billing for water and energy</li> <li>• Link scientific research with people's organizations to reduce research costs and increase effectiveness of outputs</li> <li>• Support research and global initiatives that promote pro-poor, environmentally sound technology development</li> </ul>	<ul style="list-style-type: none"> <li>• Enact appropriate legislation regarding tax breaks for environmentally sound, pro-poor technology development</li> <li>• Support intellectual property rights for technologies and knowledge that the poor already control</li> </ul>

## Strategy 5: Prioritizing poor areas and compensating the poor

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>A. Prioritize investments in strategic areas, especially where areas of pockets of spatial poverty persist, or where large concentrations of poor live (in cases where poor roads, rural electrical supply, and communications are a constraint)</p>	<ul style="list-style-type: none"> <li>• (Re-)invest in neglected areas to turn them into contributors to GNP</li> <li>• Invest in the natural resources upon which the poor heavily depend, or which could increase their income or security</li> </ul>	<ul style="list-style-type: none"> <li>• Promote change to reverse the bias against small producers, indigenous populations and subsistence-oriented groups</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritize certain investments in poor areas</li> <li>• Strengthen conflict-of-interest laws and regulatory mechanisms</li> <li>• Limit outsiders' access to newly opened areas until the poor can develop their own institutions</li> </ul>
<p>B. Compensate poor people for resource improvements they make, especially where those who would benefit from the improvements are other groups such as downstream populations, national governments</p>	<ul style="list-style-type: none"> <li>• Invest in improving poor urban environments</li> <li>• Downstream users pay upstream farmers to conserve water</li> <li>• Compensate the poor for watershed improvements and management that reduces erosion in reservoirs</li> <li>• Pay farmers to control agricultural burning</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a system of payments from those who benefit from to those who carry out resource management (e.g., in watersheds)</li> <li>• Develop enhanced monitoring systems for compliance with new standards</li> <li>• Institute transparent processes to reduce graft</li> </ul>	<ul style="list-style-type: none"> <li>• Mandate new standards for pollution or erosion control</li> <li>• Empower downstream users to bargain with upstream users in working out resource-management strategies</li> </ul>

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>C. Increase direct employment opportunities, including off-farm jobs, for the rural poor and food-for-work on environmental improvement activities and resource stewardship subsidies (government funding should also be used to catalyze the mobilization of local resources)</p>	<ul style="list-style-type: none"> <li>• Employ the poor to protect and manage key natural resources</li> <li>• Fund food-for-work programmes that also enhance the environmental assets of the poor</li> <li>• Recover costs in terms of taxes on the increased production resulting from environmental improvements</li> </ul>	<ul style="list-style-type: none"> <li>• Involve the people hired – who will rely on the resources for the long-term– in the selection and design of interventions</li> <li>• Strengthen supervisory mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Develop revenue-sharing systems in which a large percentage of local taxes are reinvested in local programmes</li> <li>• Develop systems for joint investment between govt./private sector and the poor</li> </ul>

## Strategy 6: Reforming markets and planning

Policies/ Instruments	Fiscal	Institutional	Legal/ Regulatory
<p>A. Overcome the deficiencies of the market, especially where the poor have little access to or control over the market (important in cases where the poor are isolated or where they face competition from government concessionaires, state-owned enterprises, or other commercial concerns)</p>	<ul style="list-style-type: none"> <li>• Improve transportation and communications links to poor areas</li> <li>• Collect State revenues through taxation, not through revenues from state-owned enterprises that compete with poor groups</li> <li>• Encourage private investment and competition with government monopolies (e.g., water and power) to reduce costs and expand coverage</li> </ul>	<ul style="list-style-type: none"> <li>• Gradually develop the market and help the poor adapt their institutions to new conditions</li> <li>• Provide better market-information systems, for both products and jobs</li> <li>• Encourage local control of cooperative buying and marketing</li> <li>• Strengthen local groups for resource monitoring as markets expand</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce regulatory barriers the poor face in selling their products</li> <li>• Develop local environmental standards to minimize over-exploitation as markets for local products expand</li> <li>• Create incentives for the development of public/private partnerships</li> <li>• Move state-owned enterprises out of competition with poor groups</li> </ul>
<p>B. Reform planning procedures, especially where powerful or technocratic interests have tended to exclude poor people from planning related to the resources they rely on</p>	<ul style="list-style-type: none"> <li>• Spend more time on participatory planning, which will recoup itself later in terms of higher impact programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Develop more bottom-up and inclusive planning processes</li> <li>• Develop more inclusive political processes, to allow the poor to voice their needs</li> <li>• Encourage mechanisms that utilize elements of civil society (NGOs, religious institutions) as intermediaries</li> </ul>	<ul style="list-style-type: none"> <li>• Mandate inclusive planning processes</li> <li>• Revise laws and regulations to facilitate greater inclusion of the poor in the political process</li> </ul>

<b>Policies/ Instruments</b>	<b>Fiscal</b>	<b>Institutional</b>	<b>Legal/ Regulatory</b>
<p>C. Reform subsidy systems, especially where the non-poor get subsidized services such as energy, water, and credit, relative to the rates the poor pay; also reallocate some resources away from favored rural areas to the poorer areas</p>	<ul style="list-style-type: none"> <li>• Charge market rates for water and energy, set prices to reflect social and environmental externalities</li> <li>• Subsidize high initial costs/fees (e.g., for water, energy) or create easy installment payment plans</li> <li>• Remove/reduce import duties for efficient technology</li> </ul>	<ul style="list-style-type: none"> <li>• Develop better mechanisms for monitoring distribution of subsidies targeted to the poor</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen penalties for diversion of subsidies to the non-poor</li> </ul>

# Executive Summary\*

## Attacking Poverty While Improving the Environment: Toward Win-Win Policy Options

### Background

The poor in rural and urban areas rely on the environment for their livelihood and survival strategies and are affected by the way others around them use environmental resources. At the same time, because most natural resources are exhaustible or degradable, improved management techniques for environmental resources are needed for populations that continue to grow in both numbers and consumption habits.

Concern with the state of the environment often seems to pit environmentalists and policy-makers against the poor. Unfortunately, the link between poverty and environment is uncritically characterized as a “vicious circle” or a “downward spiral.” Population growth and inadequate

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\* This is a summary of the background technical note, “Attacking Poverty While Improving the Environment: Toward Win-Win Policy Options.” This document was prepared for the 29 September 1999 Forum of Ministers’ Meeting as part of UNDP-EC’s Poverty and Environment Initiative.

resources are presumed to lead to the migration of the poor to ever more fragile lands or more hazardous living sites, forcing them to overuse environmental resources. In turn, the degradation of these resources further impoverishes them. This does sometimes happen, but as an overarching model it is highly simplistic and often leads to policies that either reduce poverty at the expense of the environment, or protect the environment at the expense of the poor.

Well-planned actions can break this cycle. Based on experience from around the world, “win-win” options exist that can build better institutions and partnerships with poor people creating more robust livelihoods and healthier environments. These options simultaneously pursue two goals: reduced poverty and better social equity, and enhanced environmental protection. Improved governance is an important vehicle for achieving these goals.

# Improving Assets for Win-Win Outcomes

While income and consumption are important, many policy options for addressing poverty-environment interactions focus on improving the asset base of the poor. Assets include natural capital (forests, water, land, fish, energy resources, and minerals); social capital (relationships of trust and reciprocity, groups, networks, customary law); human capital (skills, knowledge, beliefs, attitudes, labor ability, and good health); physical capital (basic infrastructure); and financial capital (monetary resources). With improved access to and control over different types of assets, the poor are better able to meet their basic needs and to create more flexible livelihood options.

The concept of poverty is complex and the subject of much debate. In terms of how the government views it, the poor are usually defined as those falling below some standard and, therefore, form a target group for particular policies. Be that as it may, it is important to keep in mind that the location of poverty also influences policy options. For example, although rural non-farm income is rising in importance, the rural poor are usually very dependent upon natural resources. Attacking rural poverty thus relies heavily on improving poor people's ability to derive sustenance and income from these natural resources. In urban areas, the health of the poor is particularly affected by a degraded environment, one characterized by sub-standard housing, inadequate or polluted water, lack of sanitation systems, and outdoor and indoor air pollution. Ill health leads to a host of problems, including a decreased ability

to work. Improving the urban environment positively impacts the health of the poor. Therefore, such improvements may well be a prerequisite for other poverty reduction measures.

Poverty is also a set of relationships. The poor compete with each other and with the non-poor for control over assets. Poverty can also differ within households. Women and children, especially girls, often have the least access to productive assets and are usually the most affected by pollution. Efforts to reduce poverty must also recognize this competition for resources and the differential impact of environmental degradation among and within households.

## **Revising the understanding of poverty-environment interactions**

New experience with different resource management regimes involving the poor is challenging two major, entrenched assumptions about how the poor relate to the environment.

*1. Poverty does not necessarily lead to environmental degradation.* The linkages between poverty and the environment are complex and require locally specific analysis to be understood – there is no simple causal link. In many areas, the non-poor, commercial companies, and state agencies actually cause the majority of environmental damage through land-clearing, agro-chemical use, water appropriation and pollution. Sometimes privileged groups force the poor onto marginal lands, where, unable to afford conservation and regeneration measures, their land-use practices further damage an already degraded environment. But there are also many examples in which

very poor people take care of the environment and invest in improving it. Thus, poverty can sometimes be associated with environmental degradation, but there is not necessarily a direct causal relationship.

*2. Population growth does not necessarily lead to environmental degradation.* Initially, degradation may occur as a population increases. But what happens next is context-specific. Where people are too poor to invest now, or too poor to wait for the fruits of their investment, further degradation can occur. In other cases, as the cost of land relative to labor increases beyond a certain point, farmers can change their methods of managing plants and animals or make investment in the land to offset initial declines in productivity from more intensive use. In urban areas, some empirical evidence shows that good governance can maintain the environment even as cities grow. Thus, halting population growth or removing people from densely settled areas might improve neither productivity nor resource quality.

# Resource Characteristics and Community-Based Action

Developing effective community-based institutions for the collective management of resources is a key factor in determining the success of efforts designed to aid the poor. However, the characteristics of the resource have important implications for building local management institutions. In general, institutional costs tend to be high for managing resources that are mobile (such as water, wild game, and fish); dispersed or vast; slow-growing or fragile; difficult to patrol or monitor; difficult to observe or measure; technically complex; accessed by many people or heterogeneous groups; or highly skewed in their distribution among stakeholders. Conversely, the institutional or organizational cost of collective action tends to be lower when the resource-to-user ratio is high; a common cause creates cohesion; the group is relatively homogeneous and isolated from disruptive external pressures; and access rights to the resource are secure. Well-conceived policy and strategic investment from the State can help reduce high organizational costs. But in all cases, the benefits of organizing must outweigh the costs of maintaining the organization. Efforts that fail to address the institutional issues consistently underperform, no matter who is the manager.

# Implementing Better Policy

Implementing pro-poor and pro-environment policy requires both conceptual and operational shifts, as well as better, specific policies. Some of these shifts are mentioned here.

## Conceptual shifts

Building partnerships with local communities is a new endeavor for many government agencies. It requires not only good will, but also a commitment to experimentation, fine-tuning solutions, and institution building.

Some conceptual shifts include:

- empowering the poor to identify their problems and seek their own solutions – not assuming the poor are the problem;
- engaging poor people as partners, not as beneficiaries, and using people-centered frameworks for planning and implementation;
- creating incentives for the poor as well as for private-sector entrepreneurs to mobilize resources for poverty eradication, and move away from simply exhorting poor people to mobilize their resources or providing all the resources from the State; and
- seeing the value of giving the poor real rights and ownership of assets, not just a sense of ownership.

If governments take steps to make these shifts, experience has shown that poor people will be more inclined to view the government as a viable partner in development.

## **Operational shifts**

Changes in the nature of the environment-poverty nexus have as much to do with how different interests are negotiated and expressed as they do with policy failures. Counteracting the influence of power strongholds can only be achieved through governance reform, as expressed through improving accountability, transparency and representation. Policy and institutional fora must be open and inclusive, and support should be channeled to local institutions that effectively represent the needs and aspirations of marginalized groups. For decentralization to truly reflect the needs of the poor, however, it will be necessary to invest in local-level capacity; otherwise decentralization may place power in the hands of the local elite.

In parallel with partnership approaches, governments need to shift toward more pluralistic approaches to decision making. Such approaches can accommodate different interests and potential conflict, and do not require total consensus before being able to move matters forward. Pluralism has encouraged the development of innovative tools such as resource management contracts and codes of conduct. Such concepts raise issues such as how to achieve needed checks and balances and accountability, especially in the absence of absolute standards or single clear-cut solutions. When equity is also part of the desired solution, they also require weighting attention to the needs of the poor when not all interests can be accommodated equally.

Moving to decentralized planning facilitates participation and maximizes resource mobilization. In turn, this ensures that services will be more relevant to the needs of communities and households. Decentralization implies local plans of action, places accountability and responsibility at appropriate levels, and allows quick action following monitoring and problem solving. However, it cannot be presumed that decentralization is automatically beneficial for all groups. Communities cannot be seen as homogenous and non-hierarchical. Marginalized groups such as poor families and minority ethnic groups may be excluded even in decentralized processes. An understanding of norms, values, attitudes, rules and regulations underlying decentralized decision-making at community level is necessary to ensure that vulnerable groups, such as women, children or the aged, are not further marginalized.

Experience has shown that decisions made by communities and households result in more sustainable solutions. Developing community-based decision-making and transparent dialogue cannot occur without political will at the highest level. Governments need to help catalyze the formation of people's organizations through enhanced rights and building on local organizational forms. Mechanisms must be developed to ensure feedback of learning from local to national policy levels. The poor also need to be able to draw on networks and links with state, market or civil society actors who will help them to access, defend and capitalize their assets.

Finally, effective implementation of poverty eradication programmes requires employing a gender analysis lens that takes specific note of the relationships between men and women, including division of responsibilities, labor, as well as access to and control over resources and

decision-making. There needs to be a concern in the inherent constraints to the achievement of gender-equality goals in the institutions, structures and processes within each sector. Important information on the responsibilities of women and men gained at household and community levels needs to be fed back to develop macro-level policies, strategies and institutions. The strategy to increase women's involvement also needs to go beyond an analysis of their contribution to the sector relative to men, and to consider possibilities beyond the existing division of responsibilities.

# Specific Policy Recommendations

Policy-makers can be constrained by certain global forces. For example, structural adjustment programmes may limit the ability to provide subsidies for the poor.

Macroeconomic reform can help a country become more competitive, but investing in the fastest-growing sectors can draw resources away from long-term investment in the resources of the poor. Changing global markets can exert downward pressures on living standards. In some countries, these have obliged many poor people to increase their pressure on natural resources just to survive. Countries may be tempted to overexploit natural resources to handle balance-of-payment problems. And sometimes new and distant markets can encourage the depletion of local resources to the detriment of the poor.

But much can be done through sound national policy. Policies that support both enhanced livelihoods for the poor and more sustainable management of environmental resources – the win-win scenario – depend on the nature of the resource and the groups involved. Policies that are win-win for the environment and the poor can also mean the non-poor must forfeit some resources or perquisites, and this requires political will. In general, however, there are several categories of win-win policy options that can be pursued. Many promising experiments are still young and have yet to face second-generation challenges. Still, enough research has been done and enough experience has been accumulated to suggest a few general principles and some concrete ways forward.

The strategic interventions that are appropriate for any country or region depend on the nature of the environment, the local characteristics of poverty, and the possibilities for developing and strengthening state and civil-society institutions. Not every policy option presented here is feasible or appropriate for all conditions. Most countries have diverse resource bases and face different conditions in different parts of the country and in different sectors. Poverty and environment have many faces, and diverse conditions call for varied and flexible policies. Even where appropriate policies can be identified, financial or human resources constraints may limit the practical possibilities. The options presented here are intended to provide a menu of alternatives that can be used as a basis for adapting policies to local conditions and capabilities. Many of these options can be experimented with at a local level and scaled up to larger levels as experience is gained. However, almost all of these options require training, adaptation and transfer of new technologies, as well as the strengthening of institutions to be successful.

It is also important to note that many of the options presented here depend on reallocating investments toward the poor and not necessarily on raising investment levels overall. Although increased financing from the State is required in some cases, much can be accomplished immediately with existing human and financial resources. Reallocating existing financial resources to viable projects that benefit the poor is one way. The political process of reallocating funding toward projects that benefit the poor and the environment can be made easier if “pro-environment/pro-poor” guidelines are used for public investments. This includes properly valuing long-term environmental benefits (“greening the internal rate of return”) and weighting investment criteria to recognize

the fact that a particular monetary return on investment for the poor is more valuable for increasing net well-being than the same return on investment is for the non-poor. Allocating resources for the poor is also not a matter of giving handouts. Investing in the poor can be done in a way that helps them mobilize their own resources, thereby creating not only ownership by the poor, but much larger net gain for the society as a whole.

## I. Access to Assets

*Policy option: Protecting the current asset base of the poor*

In many cases, the poor already have the right to manage key environmental resources. But they are not able to protect their rights. Large-scale farmers may take excess irrigation water; trawlers may scour the fishing grounds of coastal villages; companies may obtain concessions to tribal forests; and municipal funds meant for improvements in poor areas may be siphoned off for other projects. Industrial pollution of rural resources by both large and small enterprises is a major cause of environmental degradation and rural poverty in some areas. The State often does not have the resources to monitor in a timely and effective manner the remote and dispersed resources that the poor depend upon. Corruption, incompetence and indifference can also deprive the poor of the rights they already theoretically enjoy.

The key to protecting the poor from these abuses is encouraging the development of democratic governance systems from local levels upward. The State needs to support representation by institutions that are accountable to the people, so that monitoring of action and enforcement of rights can take place at all levels. Citizen

oversight boards, community-level review processes for State-initiated development plans, and ombudsman systems for dispute resolution are examples of such mechanisms. It is also important to strengthen the judicial system as an impartial and independent institution, and to foster the emergence of institutions of civil society that can mediate between different actors.

Another way of protecting the current assets of the poor is through insurance systems. Cash payments, in-kind provisions, or public-works employment for the poor during periods of drought, major crop failure, or natural disaster can provide subsistence needs while reducing the need to over-exploit natural resources. A corollary to this would be to establish formal arrangements for (limited) access to basic environmental resources for temporary migrants and refugees (e.g., from drought, disasters, or war), and to limit local over-exploitation and conflict. Regular programmes in which the poor are put to work improving the environment can be expanded during crisis times to provide a measure of insurance for those most affected.

*Policy option: Expanding the asset base of the poor*

A highly unequal distribution of assets often depresses subsequent rates of growth. Reducing income inequality tends to increase aggregate growth and further reduce poverty indirectly. Improving the access of the poor to natural resources and the productivity of those resources not only addresses directly the equity issue, but also provides new markets for other goods and services, thereby stimulating the economy as a whole.

Policy should focus on environmental entitlements. These include the broad set of social structures and networks

that allow poor people access to a healthy environment and resources for sustainable livelihoods. This often involves turning resources over to the poor as individuals or to organizations composed of the poor.

Where land distribution is highly skewed, land reform can be one option. Because agricultural productivity and investments in agriculture per unit-area are usually negatively correlated with the size of holdings, in some cases, conducting land reform can both increase production and encourage environmental improvement. Another possibility is regulatory reform, including provisions of rental, lease or harvest (gleaning) agreements for both private and public lands. These can include longer-term rental contracts, explicit agreements about the distribution of benefits from resource improvements, or the granting of formal tenure rights to individuals or groups currently squatting on public lands or in urban areas, so that they can legitimately seek technical assistance, credit and other services and have incentives for conservation.

Historically, governments have had a difficult time with centrally managing dispersed resources in which local people also have a stake. Turnover of the resource to local groups can be one solution. Granting rights to groups involves establishing or strengthening local people's institutions. Where only State or private ownership is allowed by law, legal change may be necessary to accommodate multi-user tenure. Any program to assign rights to resources should be checked for overt or implicit barriers to women and the poor obtaining rights, in both design and implementation. For example, modifications in local property rights that accommodate common property management have been key elements in African "success stories" for land reclamation, forest management, local

fisheries management, small-scale irrigation, resource protection, range management, and wetland cultivation.

Awarding resources to poor people sometimes can lead to environmental degradation, especially if their tenurial rights to the resource are not secure. But in numerous other cases, it has been shown that improving poor people's control over the environment provides a powerful incentive for them to protect it. But it is important to understand the local context and to promote equitable local organization. Resources that have been devolved to local levels for community management can be differentially captured by local elites, unless the State plays appropriate monitoring and enforcement roles.

Successful examples of turning over water rights to landless people or to local groups of farmers have been recorded, especially in Asia. In a number of cases, governments have turned over the rights to the forests to local groups, as in Nepal, which led to greater environmental benefits and more income for poor people. These efforts were most successful when the new arrangements built upon the management systems communities were already practicing. Ownership of resources can be fostered through the availability of locally based finance and credit schemes or through selective investments in the resource base at the time of turnover.

In urban areas, one of the key resources that can be awarded to the poor is the right to occupy the land they live on. Many urban poor live in illegal squatter villages where they are systematically denied access to municipal services. In such cases, poor people can benefit from more secure tenure to the land on which they build their houses. This not only permits public utilities to be

extended and upgraded in their area, but also encourages the poor to make investments in their housing and surroundings.

The question can arise as to whether people have the technical knowledge to manage a resource well. When people move into new settings or when conditions change, then a period of learning and adaptation is needed. The poor may not always be immediately aware of the effects of gradual and sometimes imperceptible degradation. In general, however, evidence shows that the poor have an enormous store of indigenous technical knowledge and a body of customary law that provides a social platform for collective action. Scientists and extension workers have discovered that many indigenous technologies and management practices are suitable for dissemination or as the basis for improvements. These technologies and local organizational forms have already been ground-tested. Extra effort is needed on the part of government agencies to understand and appreciate this important body of local knowledge. Customary law is not always equitable, but it does constitute an important starting place for negotiating better rights for the poor. Customary rights are location-specific and highly dependent on negotiated solutions. Unless care is taken, poor groups and women can lose out as a result of policies and processes to formalize these relationships into forms recognizable by the State.

## II. Asset Improvement

### *Policy option: Co-managing resources with the poor*

When a resource has multiple stakeholders with conflicting objectives and differential power, the government may wish to work out co-management arrangements. The government seeks to strengthen local organization, but also to provide technical assistance and to mediate the overlapping and conflicting claims on the resource. This approach is often favored by governments that wish to continue to exercise a regulatory role (important where there are environmental externalities associated with the use of the resource), and to retain control over components of the resource of direct value to the State.

Typically, successful co-management partnerships give local people specific benefits in return for involvement in decision making and various duties related to the protection of the resource.

Co-management responses may be more successful than complete turnover when the capacity to manage at the community level has become eroded or broken. The high transaction costs associated with organizing fragmented communities to take on responsibilities within co-management systems require intensive and sustained involvement by external bodies. It is especially important to ensure that the poorest users of the resource are not excluded under any new arrangements.

The challenge in co-management efforts is to reconcile poor peoples' needs and environmental enhancement goals, and to channel the returns to those who bear the costs. Positive examples of forest co-management systems can be found in the Joint Forest Management program in India, and in the game park management efforts for

the Campfire program in Zimbabwe. Co-management programmes in forestry have been most successful in villages bordering extensive tracts of degraded forests, where the forest-to-household ratio is relatively high, where ethnically homogeneous communities possess forestry knowledge, and when benefits accrue from minor forest products at a relatively early stage. Joint management has also been successful in the mangrove areas when the protection against flooding and erosion from improved management directly and immediately benefits local people.

For some large-scale or technically complex systems, the State may have some comparative advantage in management. Water supply and sanitation systems, large irrigation systems, and power-generation facilities, for example, all require specialized personnel. But while in many cases these personnel work for the State, better mechanisms of accountability can be set up so that they are more responsible to the people they serve. Efforts toward co-management can include setting up citizen oversight boards, linking salary adjustments to user-evaluated performance, or actually putting the technical staff in the employ of the user group.

*Policy option: Co-investing with the poor*

In other cases, transfer of ownership or management authority is not the issue. Instead, the State co-invests with the poor on the resources they already own. Co-investment with local communities or farmer organizations may be used to mobilize longer-term investments, such as soil conservation or improvement, irrigation and drainage infrastructure, grazing land rehabilitation, land-leveling, or micro-watershed re-vegetation. Notable examples of this can be seen in government programmes

to assist hill irrigation systems in Nepal and Bhutan, the irigasi desa programmes in Indonesia, and various tank rehabilitation and micro-watershed improvement programmes in India. In some projects, the villagers themselves contribute up to 90 percent of the value of the investments. The key to the success of these systems is the fact that farmers retain control of the authority and responsibility to manage their resources, and that investment from the State catalyzes the mobilization of additional resources from the farmers themselves.

In both rural and urban areas, improving access to better water supply, sanitation and energy services is critical for reducing the health effects associated with indoor-cooking smoke and poor hygiene, and for reducing the illiteracy frequently found in houses with poor lighting. But the poor often face high initial costs in the form of connection fees, the cost of LPG canisters, or other one-time costs. The government can help improve the poor's access to municipal services and modern energy technologies by subsidizing initial costs or by developing innovative financing mechanisms. Expanding the market for advanced technologies such as household lighting systems using photovoltaic technology or efficient biomass or LPG stoves for the poor will also help reduce unit costs. Subsidies may be used in the earliest phase of the program to generate interest and wide participation in unfamiliar technologies. But subsidies beyond management costs are neither necessary nor desirable. The poor can usually pay the monthly costs of electricity, gas and water. Indeed, they usually already pay more for poorer quality services. But the primary obstacle can be the high initial costs associated with better-quality services.

### III. Infrastructure and Technology Development

#### *Policy option: Supporting infrastructure development for the poor*

People living in poor rural areas can benefit from state-financed or subsidized improvements such as rural electrification, feeder roads, irrigation development and long-term investments. It is important, however, to develop or work with local organizations to collaborate with the government on planning these investments, so that the cost of subsequent routine maintenance is largely carried by the users.

In urban areas, poor people suffer greatly from air pollution caused by inefficient transportation systems. Since transportation is one of the fastest-growing sectors of energy use in the developing world, and mobility is linked to access to jobs, the planning of efficient land-use patterns and transport corridors in urban areas will have significant long-term implications for both energy and poverty. Clean fuels and efficient public transportation systems can reduce pollution in urban areas, improving health dramatically. Zoning reform that allows the poor to live closer to the areas in which they work also can reduce pollution and the cost of transportation to the poor. Improved telecommunication systems have had the proven effect of cutting down on trips meant mainly to seek information.

Many accidental injuries, fires and health problems are linked to poor quality, overcrowded housing. Governments can improve the condition of housing for the poor, both through direct investments in construction

and allied infrastructure, as well as through indirect means like credit provision and improving tenure rights on the land.

Strengthening the capacity of city and municipal governments to address the lack of sewers, drains, piped water supplies, garbage collection and health services is also a pre-condition for building the national institutional capacity to address air and water pollution, protect natural resources and reduce greenhouse gas emissions. Cities such as Ilo in Peru and Manizales in Colombia have developed local Agenda 21 plans that have brought major benefits for low- income people. Through more democratic local government, Porto Alegre in Brazil has provided nearly all its inhabitants with piped water, regular garbage collection and reasonable sanitation facilities. In these examples, innovative city government has been the driving force. In other cases NGOs have been able to play strong stimulating and intermediary roles in urban improvement efforts.

*Policy option: Developing technologies that benefit the poor*

Developing technologies and resource management systems that raise overall productivity and protect or improve the environment requires a conscious reallocation of research funds away from the most favored environments and toward the resources upon which the poor depend most – fragile and rainfed lands, livestock development, agro-forestry systems, and subsistence crops. Technologies need to be tailored for use on specific soil types and climates, requiring a heavy commitment to on-farm adaptive research. New institutional strategies are needed to reduce the cost of this research, by linking extension efforts and people's organizations.

In the energy sector, most countries have a regulatory environment that does not promote the adoption of innovative technologies and approaches. Instead, conventional energy supply options are favored. Policies must be designed to improve the access to energy services for poor people, with incentives offered to private power-developers to make use of the best-suited technology options. In some cases, where grid access is convenient and cost-effective, flat-rate yet low-cost billing can overcome costly metering. Similarly, many problems of theft can be avoided by encouraging local, self-governing institutions to manage distribution of energy services, for instance, through bulk sales to cooperatives.

To improve the health of the poor and reduce stress on the environment, innovation in sanitation and water treatment that does not use chemicals is required. Technical innovation (and changes in regulations) could better-enable human excreta to be recycled for both urban and rural agriculture. Ecological sanitation would prevent disease, conserve and protect water sources, and recover and recycle nutrients in a non-polluting way.

## IV. Employment and Compensation for the Poor

### *Policy option: Employing the poor*

Some macro-environmental improvements, like watershed protection or nature reserves, are public goods whose benefits accrue only partially to poor local people. Many of these activities are labor-intensive, and offer an opportunity for public and private-sector organizations to provide paid employment to the poor. Longer-term livelihood opportunities for the poor may be integrated into plans for environmental management, such as hiring poor or landless peoples as guards in community and national parks, forests, and biodiversity reserves; as people who can establish and protect wildlife corridors in agricultural regions; or as personnel to monitor local water quality.

Employment of the poor for large-scale resource improvements may be financed through municipal governments for such projects as the protection of water resources, or through temporary public works programmes intended for relief or employment generation. Thus, such employment programmes directly improve the environment in addition to providing direct income for the poor.

Direct employment projects appear most likely to be successful where there are well-established supervisory organizations, reliable funding arrangements, and where the people hired – and who will be using the resources over the long term – are involved in the process of the design and selection of interventions.

*Policy option: Compensating the poor*

In some cases, the rural poor may have few economic incentives to manage their natural resources more sustainably, but other groups have an abiding economic or environmental stake in maintaining or improving the resource. Here, it may be possible for governments or other institutions to develop mechanisms for them to be compensated for the costs incurred in changing their management or use of resources.

Examples of compensating the poor include systems to pay local farmers to control agricultural burning so as to achieve national or international carbon emission or air quality targets, or various tradable-rights systems. Municipal water companies may be able to reduce the cost of acquiring water by paying farmers to use water-conserving practices. Municipal authorities may also invest in watershed improvement to reduce erosion into reservoirs supplying urban areas.

## **V. Market and Planning Reform**

*Policy option: Intervening to overcome the deficiencies of the market*

Market forces may lead to an efficient allocation of resources when maximizing short-term return is the goal. However, markets are not always environmentally friendly, and not always supportive of poor people. In many cases, markets barely reach poor and isolated communities. In other cases, integration of poor areas into national or international economies, or the popularization of products that were formerly consumed only locally, can create demand that outstrips sustainable supply. Resources that had been used only for local consumption can be suddenly

over-exploited as markets increase, as happened in the case of the shrimp industry in Southeast Asia.

Trade for industrial or niche export markets often exposes rural households to high levels of risk. This is particularly true where the trade has encouraged people to move away from more diversified and less risky agriculture-based livelihoods. When the government promotes a certain market, it must also avoid playing the middleman. It does this by obliging farmers to sell to government marketing bodies or to traders to whom concessions have been granted – or to compete in the same market from state-owned enterprises, many of whom receive various forms of subsidies.

Market development should be gradual and accompanied by efforts to help the poor adapt their institutions to new conditions. When government promotes products for industry, while the poor give priority to products that help meet subsistence and protection needs, market inefficiencies can appear and the poor can be vulnerable when subsidies are removed. For example, growing trees as cash crops has proved to be appropriate primarily for those who had other land for food or cash crops, or those who had off-farm income, not for the very poor.

Another element of market development is to provide a more competitive environment for the provision of goods and services used by the poor. In some cases, this has been accomplished by privatization schemes, such as for the provision of power and water. In such cases where a “natural monopoly” is given to the private sector, the State must still play a role in tightly regulating and supervising the sector. In other cases, healthy competition can be encouraged through allowing private companies

to compete with the state sector in providing services used by the poor, such as in water supply, sanitation and energy services. When properly engineered, such programmes can improve the quality of the services the poor receive and lower their costs.

*Policy option: Eliminating subsidies for the non-poor*

In many countries, the non-poor receive substantial subsidies from the State. Removing these subsidies can be a source of funds for investment in the resources needed by the poor. For example, many governments give farmers in large-scale government-managed systems free or heavily subsidized water, while farmers managing their own systems can and do pay higher effective rates. Charging rates that more closely approximate the market price of water in many countries would generate millions of dollars of revenue and would lead to more efficient use of water.

Many countries set high import duties and taxes for energy technology and equipment, including those that are very energy efficient. However, many also offer subsidies to conventional energy, often to appease a particular industry or agricultural lobbies. Thus, many efficient energy technologies that could improve energy services and benefit the poor are placed out of their reach.

Furthermore, prices for most conventional energy technologies do not reflect social and environmental externalities. Subsidies are often associated with poor service, such as frequent voltage fluctuations, because energy suppliers find it difficult to generate enough revenue to maintain their equipment properly. If combined with appropriate financing schemes, end-users may be quite willing to use more efficient devices and also pay

higher prices in exchange for assured quality of energy services that will lower their total energy consumption. The urban poor often pay more per-unit for energy services and water than the non-poor. Therefore, reducing subsidies for the non-poor and extending higher-quality services to the poor can be financially viable.

*Policy option: Reforming the planning procedures*

Revising the investment criteria used for planning the State's investments may be needed. The conventional formula for calculating the internal rate of return, or net present value, heavily discounts future benefits and over-values present consumption. As such, it devalues environmental benefits that might be felt only at some time in the future. "Greening the IRR," (revising the internal rate of return) to place more value on future benefits is one way forward. Similarly, using a "basic needs externalities" approach may be necessary for calculating the returns on investments made for the benefit of the poor. For example, certain basic social services (primary health care, basic education) may be valued at more than what the poor are willing to pay. But they can still be considered viable projects because of the larger benefits that accrue to society from such investments. Finally, investment criteria need to be adjusted to take into account that one dollar of increased income for a poor person is more valuable than one dollar increased income for a rich person. For example, a 7 percent return on an investment for the benefit of the poor may produce more added well-being than, say, a 10 percent return on an investment targeted toward the non-poor. Economists have developed weighted income measures that include such considerations.

Community-based ecosystem planning can help move from ecological poverty to ecosystem health through

natural resource regeneration and maintenance of biodiversity, both on land and in aquatic environments. By linking urban biodegradable waste to agriculture and recycling its nutrients, food production can increase and degraded lands can be reclaimed. An urban policy framework can be comprehensive and eco-friendly if it integrates environmental concerns with natural resource management and problems of other sectors (e.g., agriculture and forestry). This requires better understanding of water and nutrient cycles as they pass through communities and households, and a good inventory of the current natural resource base. It also requires a better understanding of resource uses and users (i.e. who has which, and who has access to and control over them). Women's and men's different uses and knowledge of the ecosystem also must be taken into account.

Planning reform also needs a vision across time, and involves bringing in different groups of poor people in longer-term land-use planning efforts to ensure that both their existing use patterns and future needs can be met. Environmental enhancement and poverty eradication strategies also urgently need a spatial vision, so that the solutions for urban-related problems do not cause rural-related problems, and vice versa.

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