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ENVIRONMENT
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PAPERS

PAPER NO. 86

TOWARD ENVIRONMENTALLY AND SOCIALLY SUSTAINABLE DEVELOPMENT

ENVIRONMENTAL ECONOMICS SERIES

Poverty Reduction Strategies and Environment

A Review of 40 Interim and Full Poverty Reduction Strategy Papers

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Rama Chandra Reddy

June 2002



THE WORLD BANK ENVIRONMENT DEPARTMENT

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Acknowledgments

We would like to thank the Norwegian Government for financial contributions to this work.

The authors wish to gratefully acknowledge the constructive comments of several readers of our previous Reviews issued in December 2000, March 2001 and December 2001: Craig Davies, Fadi Doumani, Kirk Hamilton, Norman Hicks, Hans Olav Ibrekk, Anil Markandya, Jean-Roger Mercier, Priya Shyamsundar, Paul Steele and Chris Warner have all contributed. Anil Markandya and Jocelyne Albert peer-reviewed the latest

edition. In addition, participants at several seminars both inside and outside the World Bank have commented on presentations of previous versions of this report. We are grateful for their contributions. Numerous changes have been made in the current text to accommodate comments received, while other points remain the subject of further discussion.

The authors remain solely responsible for the views expressed herein, which do not necessarily represent the opinion of the World Bank, its Executive Directors or the countries they represent.

Executive Summary

As of late 1999, Poverty Reduction Strategies (PRSs) have been introduced as a key instrument for a country's relationship with the donor community. After completion of a Joint World Bank and IMF Staff Assessment, the Boards of the World Bank and the IMF review PRSs as they relate to the respective institution's mandate, presented in the form of a PRS Paper (PRSP). This provides a basis for debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative where applicable, an elaboration of the Country Assistance Strategy (CAS) for the World Bank, and concessional lending.

As to "... help people help themselves and their environment. ..." is part of the overall World Bank mission statement, the integration of environmental considerations into the Bank work is firmly grounded. Furthermore, the World Bank's Environment Strategy notes that there is an urgent need to integrate environment into Poverty Reduction Strategies.

In this context, the *purpose* of this review is to systematically assess the degree of mainstreaming in PRSPs, and to identify a selection of good practice that can lead the way for further improvements.

A total of 40 Interim and full PRSPs from countries in Africa, Latin America, Eastern Europe, Middle East, Central and East Asia are

reviewed. This review addresses four major questions:

1. What environmental *concerns and opportunities* are identified in the PRSPs?
2. To what extent are poverty-environment causal *links* analyzed?
3. To what extent are environmentally relevant policy responses, costed *actions*, targets and indicators put in place as part of the poverty reduction efforts?
4. To what extent has the *process* allowed for mainstreaming the environment?

Each PRSP has been assessed with a set of 17 criteria on a scale of 0 (no mention) to 3 (good practice). The scores are not weighted, but the number of ratings attached to each theme reflects the level of importance attached to them: (a) issues and opportunities (4 ratings); (b) poverty-environment-links (7 ratings); (c) actions and monitoring (5 ratings); and (d) process (1 rating).

The main findings of the review are:

- *There is considerable variation across countries in the degree of mainstreaming.* The score ranges from a high of 2.2 out of a maximum of 3.0 (Mozambique) to a low of 0.3 (São Tomé Príncipe). While scores should not be seen as precise measurements, they do indicate the approximate level of attention given to environmental matters in the PRSPs. Some variation across countries is legitimate and

- to be expected, but there is no reason to believe that the low scoring countries are free from concerns of environmental health and natural resource degradation linked to poverty.
- *The average score is low—0.9 on the scale of 0 to 3.* This signifies considerable room for improvement. It should be recalled that PRSPs are strategic documents reflecting the development priorities of countries over a 3- to 5-year period, and that environmental concerns are expected to vary across countries. Hence, we do not anticipate all countries to reach 3.0 in their rating, even as the PRSP process matures and the environmental constituency gains a “seat at the table.” However, the fact that many PRSPs pay so little attention to basic issues of environmental health, natural resource degradation and vulnerability to environmental hazards is a cause for concern.
- *The full PRSPs are few (8), but rank relatively well in comparison to the IPRSPs.* This is encouraging. Our study shows a consistent improvement among the full PRSPs from their level of mainstreaming at the IPRSP stage.
- *Good practices do exist.* This paper provides several examples that can serve to inspire

future work. The countries in this sample include Mozambique, Honduras, Nicaragua, Bolivia, and Kenya. However, many other PRSPs also contain examples of good practice. A major portion of this review is dedicated to providing specific examples of good practice.

Future assessment will refine the methodology of this review, and broaden the sample to include more PRSPs, as they become available.

Finally, it should be recalled that a Poverty Reduction Strategy Paper is only the written expression of an underlying and emerging process of design, implementation, and participation. What ultimately matters are the results on the ground, which we are not in a position to evaluate across 40 countries at this point in time. Nevertheless, we believe there is merit in assessing the quality of environmental mainstreaming in the PRSPs, as an imperfect but important indicator of the quality of mainstreaming into the underlying reality of strategy implementation. By addressing this aspect, the Review complements other initiatives undertaken by the World Bank and partners to support client countries in mainstreaming environment into poverty reduction.

1 Introduction

The World Bank's Mission statement includes the objective to "...help people help themselves and their environment by allocating resources, sharing knowledge, building capacity, and forging partnerships in the public and private sectors..." This provides a strong basis for integration of environmental considerations into the Bank's operations. The goal of World Bank's Environment Strategy "...is to promote environmental improvements as a fundamental element of development and poverty reduction strategies and actions" (World Bank 2001a, p. 45). The Strategy also notes states that "In implementing the Strategy, we will give priority to certain aspects that are particularly urgent, such as integrating environmental considerations into the PRSPs." (Ibid. p. xxviii).

In September 1999, a new framework for Poverty Reduction Strategy Papers (PRSP) was endorsed by the World Bank and IMF. The PRSP prepared by countries in collaboration with the World Bank and IMF, is a three-year strategy document aimed at integrating macroeconomic and sector strategies in achieving poverty reduction targets, form the basis for Bank and Fund concessional lending, and debt relief under the enhanced HIPC. PRSPs are designed to be (World Bank, 2001c):

- Country-driven: with broad participation of civil society
- Based on an understanding of the links between public actions and poverty outcomes and

- Oriented to achieve outcome-related goals for poverty reduction.

Since environmental health and sustainable natural resources utilization is closely linked to poverty reduction, the *purpose* of this paper is to present a systematic assessment of environmental mainstreaming in the currently available Interim and full Poverty Reduction Strategy Papers (IPRSP & PRSP respectively).¹ This review provides a specialized complement to the general World Bank PRSP reviews,² and the Bank-IMF guidelines for Joint Staff Assessment of PRSPs (World Bank, 2000), which raises points such as:

"How well have the nature and determinants of poverty outcomes (income and non-monetary dimensions) been identified? Have trends in key poverty determinants and outcomes been presented? Specifically,

- The extent of income/consumption and other dimension of poverty (health including environmental diseases, natural resource degradation, vulnerability, disempowerment) and their evolution over time".

In addition, this review is also meant to capture good practice, to stimulate independent reviews of new PRSPs, and inspire teams working on forthcoming PRSPs to enhance the integration of environmental problems and opportunities. Some early assessments criticized the interim PRSPs for

“excluding the environmental dimension of development” (GTZ, 2000). This review seeks to contribute to this debate.

It should be emphasized that PRSPs are only the expression of complex underlying processes in achieving poverty reduction objectives. What

ultimately matters is the quality of the process, and the success in implementing a good strategy. Thus, while the quality of PRSPs is central to the success of the program, expectations of the PRSPs should take into account of country circumstances, along with fact that PRSPs are living documents.

2 The PRSP Sample

This report is based on the analysis of 40 Interim and full PRSPs. The breakdown in categories and regions is specified in the Table 1.

Two features stand out in the sample reviewed. First, many PRSPs are still *interim*. This signifies that the process is still in its infancy, and we should expect that full PRSPs will provide a better basis for environmental mainstreaming. It is assumed that some IPRSPs have been assembled under very strict time constraints to meet the HIPC deadlines.

Second, the *Africa* Region dominates the number of PRSP submissions with a share of about 60 percent.

An environmental profile of each of the 40 countries is obviously beyond the scope of this paper, but selected poverty and environmental indices of countries are presented in Appendix I to Appendix V. These indices should be considered as a partial basis for comparisons on the level of environmental mainstreaming by countries and their performance across poverty and environment issues.

Table 1. Regional distribution of PRSPs

<i>Region</i>	<i>Interim PRSPs</i>	<i>Full PRSPs</i>	<i>Total PRSPs</i>
Africa	19	5	24
Eastern Europe & Central Asia	7		7
East Asia	4		4
Latin America & Caribbean	1	3	4
Middle East	1		1
Total	32	8	40

3 Method of Environmental Review of PRSPs

The assessment framework is built on the lines of previous work on mainstreaming environment in CASs (see Ekbom & Bojö, 1997, Shyamsundar and Hamilton, 2000). However, the PRSPs, while sharing some characteristics, are different from CASs in several aspects. Hence, the specific points of observation have been adapted to fit the character of, and demands on the PRSPs. The general World Bank/IMF perspective on the PRSP as laid out in the Joint Staff Assessment Guidelines (World Bank 2000) forms a background for this specialized assessment.

This review suggests a simple method that enables one to assess the environmental focus of PRSPs on a set of multiple criteria in a structured format. The scoring format provides a basis for assessing the progress on environmental variables at each stage, from the IPRSP to PRSP and from one 3 year PRSP cycle to the next. We will return to this in section 6 below. The scoring method is also useful to compare the progress on any given criterion, although we do not report at that level of detail here. Hence environmental assessment at each PRSP revision serves to improve the environmental focus of PRSP and provides information on the areas that require attention.

The method of PRSP assessment is described here conceptually and further illustrated using examples in the next section. The framework for assessing the environment mainstreaming is grouped under four categories:

1. *Issues in focus*: description of major concerns and opportunities
2. *Causal links* assessment: poverty-environment link analysis
3. *Responses* to environmental challenges: environmental management measures, monitoring & evaluation
4. *Process*: participation and inclusion of environmental constituencies and voices.

Issues in Focus

The first set of issues concerns the resource base, environmental problems, and opportunities. We would expect countries to differ in their treatment of these issues, and not all countries would be expected to give the same level of attention to all issues e.g. biodiversity. The “issues in focus” category is broken down into four major *themes*:

- *Land use*: including deforestation and degradation of forests and woodlands, soil degradation (erosion, salinization, waterlogging, nutrient depletion, impacts of mining, and overgrazing)
- *Water*: access to safe drinking water, irrigation, water pollution, coastal zone, marine and fishery aspects
- *Air*: air quality, pollution from biomass or fossil fuels, industrial processes that generate lead, particulate matter, sulfur, nitrogen oxides and other pollutants and

- *Biodiversity, and climate variability and change*: threats to genetic resources, degradation of ecosystems, but also opportunities for poverty alleviation through sustainable use of biological diversity; climatic variability and long-term change.

Causal Links Assessment

Once the environmental issues of the country are assessed, the ground has been laid for a causal analysis. Why is the environment degrading? How does this impact the poor? This theme has been broken down into seven categories:

- *Natural resource degradation and poverty*: what links are identified and possibly quantified? Examples include nutrient depletion leading to falling yields, and hence falling incomes among the poor.
- *Environmental health*: how pollution of air and water is linked to poor health, and how it relates to the burden of disease.
- *Vulnerability*: how climatic variability and natural disasters impact poverty, e.g. through periods of drought, floods, earthquakes, and hurricanes.
- *Property rights*: analysis of how natural resources are “owned” and how the security of tenure may impact the utilization of resources. It may also include a discussion about the inequality of resource access, such as unequal land ownership that forces the poor to cultivate marginal environments.
- *Incentives*: how price regulation, taxation, subsidies, exchange rate policies, trade regime, and the debt burden impact the environment. Do public interventions correct market failure, or do they make them worse?

- *Empowerment*: the degree to which poor people are in control of decision-making on environmental matters of immediate concern to them. While this point is closely related to property rights, it is more concerned with the levels and rules of collective decision-making about the environment than legal title.

- *Gender and environment*: attention to how the role of gender affects the utilization of natural resources. Are women denied secure tenure to certain assets? Are they particularly hurt by the degradation of natural resources? If so, to what extent do they have a “voice” in society?

Response Systems

The country-level response systems to environmental challenges and opportunities are assessed based on the PRSP’s proposal to improve the environment management capacity, targeted investments in promoting environmental objectives, and measuring the progress of interventions through monitoring and evaluation. The assessment of response systems is based on the following five criteria.

- *Environmental management capacity*: This point focuses on environmental legislation, institutional reform, regulation (e.g. of EAs), introduction of environmental standards for emissions/effluents or ambient conditions, awareness raising through education and information, establishment of environmental information systems, early warning systems and preparedness for natural hazards. It also concerns the use of economic instruments for environmental management such as user fees, effluent/emission charges, product pricing, and green taxes.
- *Investment in natural capital*: This is an important measure of government’s

concern for natural resources management and its commitment to improve natural resource productivity. Examples include rehabilitation of degraded soils or forests, the gazetting of Protected Areas, restoration of wetlands and so on.

- *Investment in man-made capital:* In this context, an assessment of planned investment regarding housing, water supply systems, sewage systems, water treatment plants, sanitation, solid waste management infrastructure, and so forth, becomes significant.
- *Monitoring natural resource outcomes:* Tracking the outcomes of Poverty Reduction Strategy implementation requires a monitoring and evaluation system that should be described in the PRSP. A subset of this M&E system is a set of indicators. The indicators for natural resource management may include those for land use (e.g. trends in crop yield), forest management (e.g. deforestation rate per annum), land under protected area (e.g. percent of geographical area protected), soil conservation measures (e.g. types and extent of treatment), water stress or scarcity (e.g. per capita availability in cubic meters), and the extent of renewable energy use.³
- *Monitoring human resource outcomes:* This aspect of the M&E system should be attached to another set of indicators: e.g. infant mortality, incidence of infectious diseases, access to safe water (e.g. percent of population in rural/urban areas), sanitation (percent of population and poor households covered), housing standards (e.g. crowding: floor area/person), energy sources used (e.g. coverage of electricity, use of biomass fuels).

Process

The final category concerns the *process* and planning behind the PRSP, and also includes the process for implementation. While these aspects are not uniquely “environmental” they are added here because an inclusive and participatory process is an important requirement if the basic concerns of environmental health, natural resource degradation and vulnerability to natural disasters are to be heard, registered and acted upon.

The process rating has caused considerable debate, and it is worth emphasizing what this does, and does not, measure. As with other aspects of this PRSP review, it reviews what is in the text. It is not possible to evaluate the *quality* of a set of consultative events. For example, it has been argued that some “participatory” events are designed as top-down ceremonies, leaving little room for upward feedback. It has also been argued that consultations sometimes ignore environmental concerns raised. This may be true in some cases, and the lack of inclusion of environmental concerns or actions will be reflected in low ratings under those categories.

Method of Scoring

The 17 variables identified and described above are scored with respect to each country’s PRSP (See Appendix F for a summary of the format for scoring). A score range of 0 to 3 is used and the description is provided below:

- 0 = no mention
- 1 = mentioned but not elaborated
- 2 = elaborated
- 3 = good practice

The unweighted average scores of the assessment are presented in Table 2. The aggregate multidimensional indices are subject to debate and criticism on the weights used.

Refinements involving a weighting system have been rejected in favor of a format that includes scores on different aspects of environmental challenges and opportunities, which implicitly serves as a weighting system.

It is recognized that any assessment, including scoring, involves subjective judgment. However subjectivity is made transparent and

consistent across countries in the format we use. We do not encourage attention to small differentials in scores between countries, but see scores as valuable indicators of approximate level. The assessment process designed allows us to succinctly present quantitative information to complement the qualitative analyses of PRSPs undertaken in the JSA and by other studies.⁴

4 Results of the PRSP Review

As noted earlier, most PRSPs are Interim, and the results should be interpreted with that in mind. The time available for preparation of full PRSPs in successive time periods provide opportunities for improvement. The ranking on the environmental mainstreaming of PRSPs is summarized in the Table 2.

The following findings stand out from the table and the analysis. First, there is *considerable variation* in the degree of mainstreaming: from a high score of 2.2 (Mozambique) to a low of 0.3 (São Tomé Príncipe). There is a top cluster with Mozambique, Honduras, Nicaragua, Bolivia, and Kenya that has set relatively high standards. While scores should not be seen as precise measurements, they do indicate that the level of attention given to environmental issues varies considerably. Some variation is legitimate and to be expected. However, there is no reason to believe that the low scoring countries are free from concerns of environmental health and natural resources degradation linked to poverty. The low scoring cluster including such countries as Guinea-Bissau, Senegal, and Central African Republic clearly illustrates this. As the data contained in the appendixes to this report indicate, the low scores of these countries are not due to irrelevance of such considerations, but due to lack of attention to their appropriate place.

Second, the *average score is low*: only about 0.9. The exact figure is not that important, but in qualitative terms, it means that many PRSPs

neglect to mention issues that would be relevant, much less elaborate them. This signifies considerable room for improvement to approach the theoretically achievable top score of 3.0. However, one would not expect all countries to approach that figure, as not all countries can be expected to award environment that level of priority.

Third, the *full PRSPs* are only eight in number, but *rank relatively well* in comparisons to the IPRSPs. Their average as a subgroup is about 1.7. This is encouraging. However, the full PRSP from Tanzania is still not highly placed within the sample. Few would deny that Tanzania has its share of environmental health issues, and its concerns about natural resource degradation.

Fourth, *good practices do exist*, and this paper provides some examples that can serve to inspire future work. As examples below will illustrate, the standard for “good practice” is not extraordinarily demanding, and should be easily achievable if sufficient attention is given to environmental mainstreaming.

These conclusions have proven robust over time. Previous Reviews in December 2000 (covering 19 PRSPs), March 2001 (25 PRSPs), and August 2001 (38 PRSPs) showed similar results. The one encouraging feature over time, however, is the tendency for full PRSPs to show better mainstreaming scores than Interim ones.

Looking at the four groups of points for scoring, the following picture emerges:

Table 2. Scores on environmental mainstreaming in PRSPs

S. No.	Country	Region	Interim / Full	Env. score of PRSPs
1	Mozambique	Africa	F	2.2
2	Honduras	Latin America	F	2.1
3	Nicaragua	Latin America	F	2.0
4	Bolivia	Latin America	F	2.0
5	Kenya	Africa	I	1.9
6	Burkina Faso	Africa	F	1.7
7	Lao PDR	East Asia	I	1.6
8	Mauritania	Africa	F	1.4
9	Rwanda	Africa	I	1.3
10	Cambodia	East Asia	I	1.2
11	Uganda	Africa	F	1.1
12	Madagascar	Africa	I	1.1
13	Georgia	Central Asia	I	1.0
14	Guyana	Latin America	I	1.0
15	Gambia	Africa	I	0.9
16	Tanzania	Africa	F	0.9
17	Ghana	Africa	I	0.9
18	Guinea	Africa	I	0.9
19	Mongolia	East Asia	I	0.8
20	Vietnam	East Asia	I	0.8
21	Moldova	Eastern Europe	I	0.8
22	Chad	Africa	I	0.8
23	Ethiopia	Africa	I	0.8
24	Armenia	Eastern Europe	I	0.7
25	Albania	Eastern Europe	I	0.7
26	Cameroon	Africa	I	0.6
27	Mali	Africa	I	0.6
28	Lesotho	Africa	I	0.6
29	Malawi	Africa	I	0.6
30	Sierra Leone	Africa	I	0.6
31	Kyrgyz Republic	Central Asia	I	0.5
32	Benin	Africa	I	0.5
33	Zambia	Africa	I	0.5
34	Guinea-Bissau	Africa	I	0.5
35	Tajikistan	Central Asia	I	0.4
36	Yemen	Middle East	I	0.4
37	Senegal	Africa	I	0.4
38	Macedonia	Eastern Europe	I	0.3
39	Central African Rep.	Africa	I	0.3
40	Sao Tome Principe	Africa	I	0.3

Note: I = Interim PRSP; F = Full PRSP.

- *Issues:* Even though the poor in most PRSP countries are overwhelmingly dependent on natural resources, this is not explicitly brought out in many PRSPs. Problems are noted in passing, if at all. Consideration to poor (environmental) health is generally better catered to. The average score on the four points rated under the heading of "Issues" (see Appendix F) show an average of only about 0.6 in this sample, on the scale of 0 to 3. This is a surprising result, as it would seem straightforward to at least describe the basic problems with respect to land, air, water, biodiversity and climate. The description is often limited, and tends to focus on water pollution and land degradation. These are often the most significant from a poverty perspective.
- *Links:* The average score for the seven items listed under this theme (see Appendix F) is about 0.8, on the scale of 0 to 3. This is still low, but shows that even on the basis of a weak description of environmental issues, many PRSPs make conceptual links between poverty and environment. Links between polluted water and poor health are generally captured, and links between degradation natural resources and poverty are often mentioned. However, analysis of the incentive structure and its impacts on the environment is generally lacking.
- *Responses:* The average score across the five items rated under this theme (see Appendix F) is about 1.4 on the scale of 0 to 3. However, most PRSPs do not explicitly present the legislative, institutional and regulatory inventions needed for poverty reduction through environmental management. An important issue that has not been covered by several PRSPs is the cost of environmental interventions and the sources of funding. Cost of inputs and the relationship between inputs and outcomes is generally absent, but the case of the Kenya PRSP is an exception.
- *Process:* The average score for this single item, across 40 countries, is about 1.2 on the scale of 0 to 3. Though PRSPs generally describe the processes of discussion and stakeholder participation, it is difficult to determine to what extent environmental constituencies have been included, and to what extent the environmental concerns of the poor are translated into implementation priorities. It is expected that the evolution of Interim PRSPs into full PRSPs will bring about considerable improvement in this regard.

5 Examples of Good Practice

This section provides concrete examples of mainstreaming of environmental issues in the poverty reduction strategies. The text is kept brief, as the original PRSP documents are easily available for the interested reader, through the World Bank's external website: www.worldbank.org.

Issues in Focus

Under this heading, the treatment and sensitivity to environmental issues are examined and the high level of concern shown with respect to them by some countries is summarized in the following paragraphs.

The Burkina Faso PRSP notes that "...climatic conditions, land locked status, low agricultural productivity, degradation of soil and water resources, are major constraints to economic growth and contribute to massive poverty and severe food insecurity among rural inhabitants. Income from farming and livestock raising is highly dependent on rainfall which varies considerably from year to year."

Most poor households in *The Gambia* depend upon wells for drinking water and pit latrines for sanitary purposes. In 1998, only 37 percent of the population had access to proper sanitary facilities. Lack of awareness to water supply and disease incidence is a major factor of water point contamination. Diarrhea spread from polluted water is the major cause of child morbidity and mortality and poor sanitation further exacerbates disease spread.

In *Guyana*, over three-quarters of the area is forested and the ecosystem is fragile, and the 10 percent of land area below mean sea level is inhabited by over 90 percent of the total population. The economy is heavily dependent on coastal agriculture, minerals and forest products. Since the coastal land lies below the mean high tide level and is exposed to flooding, sea defenses are critical for protecting agriculture, communications, roads and water supplies.

Pollution resulting from lack of environmental regulation and the impacts on human health is well illustrated by the *Honduras PRSP*. *lack of land use and urban development planning, has contributed to increased problems of environmental deterioration and pollution in the main urban centers of the country, with impacts on human health...pollutants in soils and water cause high rates of diarrhea illnesses in Tegucigalpa... Likewise studies of air quality carried out by the Municipal Statistics Research Directorate in the city of San Pedro Sula found an above normal concentration of nitrogen dioxide of 0.029 ppm/day. Monitoring air quality during January-May 1999 showed average pollution to be two times higher than the norm for particulates up to 10 microns and fourteen times higher for suspended particles... The high level of air pollution in the cities is the main cause of morbidity..."*

The *Kenya IPRSP* presents a description of the environmental issues relating to land use and water and suggests strategies, monitoring indicators and cost of implementing the

strategies relating to land use, water and energy. The IPRSP also expresses concern regarding the loss of biodiversity.

The *Kyrgyz IPRSP* identifies air and water pollution as major health concerns. For example, the benzopyren emission from vehicular pollution is estimated to be 25 to 35 times the official standard. The lead and chromium concentrations exceed the norms set for soil pollution by 1.4 times and 12.7 times respectively.

The *IPRSP of Lao PDR* notes that “...*the government is aware of the costs of deforestation, arguably the main environmental problem of the country, including the erosion, loss of wetlands and loss of natural habitat and biodiversity, climatic and other risks stemming from deforestation.*”

The *PRSP of Nicaragua* highlights the relationship of low income, high diarrhea incidence, limited education of mother, lack of safe water, over crowded housing, and spacing of births as major determinants of malnutrition. Over 30 percent of poor children and almost 40 percent of extremely poor children are malnourished compared to 12 percent of non-poor children. Poor children under 5 are particularly affected by chronic malnutrition resulting in varying degrees of stunting. Among the extremely poor children 36 percent are affected.

The *Rwanda IPRSP* notes that the major portion of the energy consumed by poor is in the form of fuelwood. Shortage of fuelwood imposes time and financial costs on poor households, and makes it harder for children to attend school. Poor access to energy has also impeded the development of agro-processing and non-agricultural activities, compromising the economic diversification. Access to potable water in rural areas fell from 64 percent in 1984 to 50 percent in 1996. A third of the water

supply infrastructure does not function, and poor households cannot afford the fees for drinking water.

Yemen's per capita water supply is about 2 percent of the world average and 85 percent below the amount needed for domestic use. Ground water has reached a state of over-exploitation as a result of over drilling stimulated by diesel subsidies.

Poverty-Environment Links

Since environment is a cross-sectoral issue, critical analysis of poverty-environment links is important in the design of responses, resource allocation, and in setting goals and targets. The PRSPs provide useful insights into analysis and implementation of policies that have influence on poverty-environment links.

In *Bolivia*, the poverty in rural areas is as high as 82 percent and of which 59 percent are extremely poor, 78 percent of rural households do not have access to drinking water and 72 percent lack basic sanitation service. In terms of environmental quality, water pollution is the country's greatest problem requiring greatest priority for drinking water and sanitation. Due to poor sanitation, rural households are exposed to three endemic infectious diseases: chagas disease, malaria, and tuberculosis. Chagas disease is spread over 60 percent of the country and is responsible for 13 percent of deaths in people aged 15 to 75, while the incidence of malaria (8 per 1000 inhabitants) and tuberculosis (113 per 100,000 inhabitants) is still the highest in the region.

Burkina Faso IPRSP notes that soil degradation and a decline in soil fertility as a result of over-exploitation of arable land is a widespread phenomenon. Soil degradation is most marked in the northern and central regions where most of the rural population is caught in a vicious circle of *soil degradation, poverty and food insecurity*.

The PRSPs of *Burkina Faso, Guinea, Honduras, and Mauritania* present maps showing regional distribution of poverty, population and natural resource attributes. The poverty and resource maps help in the assessment of spatial and temporal relationships between poverty and the resource base. The maps can also be used to track the impacts of policy and management interventions relating to poverty reduction.

The *Guyana* PRSP notes that weak framework for land use as a systemic deficiency exacerbating the poverty. Lack of land records, land inventory, and coordination on land use resulted in overlapping mandates and uses for agriculture, forestry, mining and housing. In addition, poor quality of housing is characterised by large scale squatting and unfit dwellings.

The *Honduras* PRSP highlights strong correlation between the areas of high deforestation due to slash and burn agriculture and persistent poverty. The deforestation affects 61 percent of the forest area in the western and southern regions and 55 percent of forest area in the Atlantic region. Other causes of deforestation identified are the changes in forest soils, fuelwood consumption, forest fires, and unregulated logging. In 1998, the Central American Environment and Development Commission estimated the annual economic losses of Honduras deforestation, in terms of damage to timber and non-timber products, biodiversity losses, and losses of affected water resources and ecotourism at about US\$112 million.

The *Kenya* PRSP expresses concern over property rights related to natural resources, and proposes "...to implement land law system to create an efficient and equitable system of land ownership". In the context of water, the PRSP notes "the incidence of violation of water rights, conflicts, and pollution have dramatically increased. The government proposes to develop a

community based catchment management strategy to ensure adequate quality and quantity of water to the poor".

Participatory poverty assessment in *Lao PDR* provides reference to the degree of rice self sufficiency as a major determinant of poverty. Other common causes cited are arable land constraints, livestock diseases, natural disasters, and shifting cultivation.

In *Moldova*, most rural households survive on subsistence farming, and with few opportunities for credit, they lack the ability to adopt modern inputs. Although there has been progress in land privatization, it has not led to an improvement in productivity.

The *Mongolia* PRSP notes the direct influence of pasture degradation due to desertification and land degradation on the poverty and living standards of herdsmen and the quality of pasture with yield losses reaching 19 to 24 percent. Increased live stock numbers and adverse impacts on water supply and carrying capacity affect 40 percent of herdsmen and 70 percent of pasture. Another major impact of poverty and unemployment is the illegal fuelwood extraction as a source of livelihood, further reinforcing the cycle of poverty and natural resource degradation.

The *Mozambique* PARPA (Plan for Reduction of Absolute Poverty) highlights the environmental impacts of population growth, poverty and dependence on firewood and charcoal for domestic energy, and makes proposals for electrification and solar energy development in the districts.

Response Systems

As expected, the response systems of countries vary depending on their socio-economic conditions, the environmental challenges they face, institutional framework, and previous

**Box 1.
Vulnerability**

A range of vulnerabilities related to natural hazards presented by PRSPs are summarized as follows.

The earthquake of 1988 affected 40 percent of *Armenia's* geographical area and one-third of country's population, with the poor being the most affected. In addition to loss of life, it disrupted critical services like housing, water supply, and sewage systems.

The *Honduras* PRSP presents a detailed assessment of vulnerability due to hurricane Mitch. The PRSP notes that "*Hurricane Mitch had a severe impact on living conditions in Honduras and this in turn affected poverty levels nationwide. It is estimated that percentage of poor households rose from 63.1 percent in 1998 to 65.9 percent in 1999...*" While the damage to total capital stock of the country is estimated at \$3800 million, accounting for 7 percent of GDP. In case of housing sector alone, the damages were estimated at US\$344 million from the total damage of 35,000 houses and 10 to 50 percent damage to another 50,000 houses.

Mauritania is severely affected by drought and desertification in the Sahel region. The PRSP notes that "*With the exception of mining and fisheries, the country is under-endowed in directly exploitable natural resources. Vegetation and forest resources are sparse and water resources, both surface and underground, are either limited or difficult to reach. Due to limited water resources, the arable land potential of Mauritania is less than 0.5 million ha (< 1 percent of country's geographical area). In addition, 60 percent of the farms are less than 1 ha and lack secured tenure.*"

In *Madagascar*, repeated fires have severely affected the vegetal cover, given the relief of the country, soil erosion has assumed major proportions. It is estimated that 200 to 400 tons/ha of top soil is washed away annually.

The *Nicaragua* PRSP presents linkages of vulnerability and marginality. The PRSP notes "*volcanic eruptions, hurricanes, earthquakes, droughts, fires and floods are common periodic occurrences, which produce ecological deterioration and destruction of property... recent catastrophes (EL Nino, Hurricane Mitch, La Nina, Masaya earthquake) have shown that the poor are much more likely to be adversely affected than the non-poor. Because of the inadequate construction, their dwellings are particularly vulnerable; and when affected have insufficient savings to address the emergencies.*"

Mongolia has a predominantly pastoral economy. The PRSP highlights the environmental vulnerability resulting from overgrazing, declining pastoral mobility, conflict over pasture, dzud (harsh winter weather resulting in sheets of ice and snow covering pastures), drought, flooding, dust and sand storms, and steppe fire. Pastoral risk management is proposed for managing covariant risks and the vulnerability to drought and dzud.

measures undertaken. Good practices of investment, interventions and monitoring systems are summarized below.

The *Armenia* PRSP proposes environmental protection through measures to conserve land, forests, pastures, mineral resources; improvements in pollution control, recycling of waste, district heating, maintenance of dwelling stock, enforcement of environmental regulation and improvements to environmental information systems, and

review of water supply and sewage tariffs. It also proposes to improve water supply and sewage systems through a World Bank credit.

Bolivia proposes a Law on Risk Reduction and Disaster Management to regulate state activities and establish an institutional structure to reduce the impact of natural disasters. The prefectures, municipal governments and regional agencies propose to formulate plans for reconstruction, in coordination with the Ministry of National

Box 2.
Incentive Structure

Policies like subsidies, regulation, pricing, taxation, exchange rate, trade, debt and other sector specific and macroeconomic policies affect environment in several ways. Discussion in PRSPs of such policies are exemplified below. However, the impact of economic policies and instruments on the environment is not explicitly analyzed.

The Gambia's export earnings depend upon agriculture, tourism and re-export trade. All three sectors have been severely affected by the world prices for groundnut, devaluation of CFA franc, adverse terms of trade, and protectionist policies of the neighboring countries.

Georgia's energy sector reform reflects the impacts of privatization on the poverty-environment relationship. With the collapse of Soviet Union, Georgia lost access to cheap energy resources. Privatization of the electricity market raised the energy tariff by 2.4 times up to about 20 percent of the average family income. Inability of the poor to pay for electricity resulted in increased demand for wood. A system of energy allowances to households adopted early in the reform was found to be inadequate and inefficient to meet the targeted budgetary support to poor.

The *Ghana* PRSP highlights the benefits of the Structural Adjustment program to natural resource management. Community water supply and sanitation benefited from the injection of capital and restructuring of the Ghana Water and Sewage Corporation. The water tariff reform is proposed taking into account the ability to pay of poor households and the financial viability of the utility. In the cocoa sector, policy changes are underway to encourage cocoa growing through remunerative pricing, reduced export tax, and incentives to export. However, further studies are needed to assess the impact of relative cocoa prices on the environment.

Honduras' PRSP refers to the proposed development of economic instruments such as carbon markets, sale of environmental services, incentives and disincentives for promoting sustainable management of natural resources, and the environmental fund to support environmental investment projects.

In *Moldova*, a series of natural disasters, terms-of-trade shocks from liberalized energy prices, and regional instability caused intermittent policy reversals in the implementation of the structural reform program and resulted in adverse impacts on the standard of living. A social protection plan has been implemented to rationalize the energy prices, eliminate non-targeted energy subsidies and limit the energy subsidies to the most vulnerable groups. The plan is likely to benefit government finances and improve the targeting of social protection program.

Mauritania initiated an investment code, tax incentives and transparency in the award of titles in the mining sector to encourage foreign direct investment, product diversification and technological improvements and partnerships.

Nicaragua proposes US\$48.5 million through financing mechanisms such as *debt-for-nature swaps* to implement a broad based program on the environment and vulnerability mitigation with the objectives of managing renewable resources, financing sustainable development, rationalizing land use, and for restoration of watersheds.

Defense and the Ministry of Sustainable Development and Planning. In the area of housing, a Risk Prevention, Mitigation and Emergency Management program is proposed

with an investment of US\$64.2 million to provide solidarity shelters and to establish minimum habitability standards to housing affected by national disasters.

The *Burkina Faso* PRSP specifies a program of soil and water conservation designed to break the vicious circle of soil degradation, poverty, and food insecurity. It also refers to new legislation pertaining to environment, water resources and mining. Related to environmental management is the testing of ways to provide for secure property rights to land under a national land management program. A cost assessment of programs relating to irrigation, measures to combat vulnerability, and projects for strengthening institutional capacity is also presented.

Cambodia PRSP emphasizes access to land as a major poverty alleviation measure and proposes land reform involving land registration, management of national land stock, and a legal framework for enforcing property rights within the municipal and national master plans. Other measures proposed are the revised forestry laws for sustainable forestry management, concession management, log export, community forestry initiatives to improve property rights of indigenous people, and water supply and sanitation policies based on financial autonomy involving tariff adjustment, cost recovery, private sector participation, and institutional capacity for expanding the water connections to end users.

The *Ethiopia* IPRSP highlights the progress achieved in soil and water conservation, terracing and tree planting activities carried out under the food-for-work program, and proposes to adopt suitable technologies in moisture deficit and drought prone areas to address the food security problems at household level.

Georgia's PRSP proposes privatization of land and water resources, promotion of a land market, creation of water user associations, and implementation of a rural credit policy establishing guarantee funds and insurance

against climatic hazards. The PRSP also presents the interventions aimed at improving soil and water resource management, restoration of agricultural infrastructure, ensuring property rights and income sources to vulnerable groups.

Based on the experience of the hurricane Mitch, *Honduras* proposes to strengthen risk management and disaster preparedness by enacting a national law on emergencies, along with directions to private sector and municipal corporations to provide a budget for risk

The *Kenya* PRSP proposes to develop a household energy supply strategy through promotion of energy efficient stoves, charcoal conversion kilns, charcoal briquette stoves, biomass recovery technologies, and alternative energy sources such as geothermal and wind energy.

Despite the livestock sector's potential for reducing poverty in *Mauritania*, it is seen as "poorly integrated and inadequately structured". The government proposes to integrate the agriculture and livestock sectors; adopt a farming code to open the pasture and range lands, improve milk and meat production; introduce environmental friendly range management; promote studies to support value added in the leather and hide industries; and establish research and extension programs for improving the pastoral economy. The government intends to promote early warning systems and response mechanisms to limit the impacts of climatic fluctuations on food security. The plan includes a food security observatory and a national reserve stock comprising reserve of food products and financial reserve to facilitate the response to food crises at regional level.

Moldova proposes to implement mass registration of 1.2 million private land titles in territorial cadastre offices, liquidate state

farms and create producer and service cooperatives. The PRSP proposes to improve the energy sector through privatization and deregulation, and enhance the competitiveness of the electricity market.

Mozambique proposes five year PROAGRI, a combination of initiatives for sustainable and equitable growth in agriculture, forestry and animal husbandry to contribute to poverty reduction and food security, while protecting the physical and social environment. In addition, the PRSP proposes principal measures to be implemented in the sectors of energy, water supply, agriculture, forestry, irrigation, and fisheries.

Nicaragua supports the environmental policy and action plan (PANic) and priorities in six areas; water, forestry, soils, refuse (solid and liquid waste), environmental education, and institutional coordination. The actions proposed include rehabilitation of the most vulnerable water basins and plans for watershed management, reforestation, soil conservation, crop diversification, and legal framework for natural resource management and municipal environment activities. The second rural municipal development project financed by the World Bank proposes to spend US 12.5 million on municipal infrastructure and environment.

Rwanda commits to a resettlement program to ensure that new settlements have access to basic public services such as water and sanitation for the 250,000 households living in camps under plastic sheets, and more than 60,000 live in damaged housing.

Tajikistan proposes a draft legislation on water resources and establishment of autonomous water supply and distribution organizations, water users associations, recovery of operating

costs, and repairs to the irrigation and drainage infrastructure.

The *Vietnam* PRSP proposes to strengthen forestry and public resource management through reform of tax policy and administration for efficient management of natural resource concessions, improved revenues from the sustainable management of forestry, mining and petroleum resources.

Process

While process issues, participation and design cannot be expected to specifically highlight the involvement of environmental constituencies, the more inclusive designs allow such voices to be heard. It is interesting to note that most of the countries that have been identified as providing good practices relating to process and participation also score high on mainstreaming: Bolivia, Kenya, and Nicaragua are such examples.

To strengthen the institutional mechanisms for participation, *Armenia* proposes to conduct focus group discussions, stakeholder analyses, social assessments, an information campaign on the poverty strategy, and to collect feedback from key stakeholders.

In *Bolivia*, *National Dialogue 2000* was initiated as participatory mechanism for implementing a social, economic and political agenda. A separate *Jubilee 2000* dialogue was organized involving the Council of Native Eastern People, private development institutions, youth and women organizations, The processes provided opportunity for civil society consultation on the poverty reduction and development strategy. A series of workshops under the theme of "Government Listens" was instrumental in providing civil society opinion and proposals on environment, capacity building, gender, participation, opportunities, vigilance, and monitoring.

Box 3.

Environment Management Capacity

To reorganize development and management of national land resources and make property rights more secure, *Burkina Faso* adopted the environment code, forestry code, mining code, and water code. Plans are being adopted to implement the codes under the National Land Management Program.

The *Cambodia* PRSP notes that land registration, cadastral mapping, inventory of land resources, GIS/LIS, land valuation, and land survey network require attention. Priority will be given to develop a comprehensive land planning system, including the preparation of master plans at all levels. New data and the existing information will be fed into a GIS to complete an inventory of all land. Cambodia also proposes to establish a hydrological information system of surface and ground water sources that supports strategic planning and environment-friendly development of water resources for irrigation, potable water, hydropower, fishery, and flood control.

Cameroon proposes to establish an equalization fund to transfer income from forest development to municipal districts, community participation in the management of forests, transparency in the award of forest development rights, and detailed classification of concessions.

The Gambia proposes a regulatory framework for the energy sector, alternative energy sources, and to promote independent power providers. The government also proposes to strengthen environmental capacity by setting up an environmental information system.

Honduras plans to reduce ecological vulnerability by improving risk management at both central and decentralized levels and develop economic and financial instruments that promote sustainable management of natural resources. The PRSP proposes legal framework in the form of Water Law, Forestry Law, and Law on the National System for Risk Reduction and Emergency Response, National Land Use Strategy, Joint Implementation Program to promote cooperation among private enterprise, municipalities and communities, and information system for early warning and disaster mitigation.

The *Kenya* IPRSP presents the regulatory and legal framework for implementing EIAs and environmental audits through the National Environment Management Authority; the National Environment Council; the Environment Tribunal; the Environmental Trust Fund; and an environment information system at a cost of more than \$3 million. The IPRSP also proposes to restructure forestry institutions and forest management. The proposals include a full forest inventory; new licensing procedures; improvement in wood recovery rates; on-farm based wood production; 30 percent women to be involved in forest-based activities; and collaborative agreements with rural communities at the cost of about \$10 million.

Mozambique emphasizes the regulatory framework for environmental institutions, measures to support the National Council on Sustainable Development, adoption of environmental standards on CFCs and marine pollution, territorial planning and zoning, programs to combat bush fires and deforestation, a strategy for waste management, and measures to strengthen the capacity of early warning systems of the National Meteorological Institute.

Nicaragua PRSP states "the government is strengthening its capabilities in risk reduction... geographic information system to map natural threats, develop early warning systems, produce geological and warning maps, and improve its monitoring of volcanoes and areas vulnerable to land slides... Fishing, forestry and water legislations have been drawn up...mining law is under consideration...and a law to protect nation's biodiversity is being drafted... A National Systems for Prevention, Mitigation and Disaster Relief (SNPMAD) is beginning operations with the World Bank financing..."

The *Vietnam* PRSP proposes an Emergency Relief Fund to help poor and vulnerable people to take preventive measures against storms, floods, droughts, and pests by organizing training to manage disasters.

The *Chad* PRSP presents multi-criteria, revealed preference and focus group approaches to identify the needs of poor. However, in this case, the participatory design has not (yet) carried over to mainstream environment in the PRSP itself.

The Gambia is one of the early countries to formulate a Strategy for Poverty Alleviation (SPA) in 1992 through a participation and consultation process involving civil society, private sector and community groups. The major outcomes of the consultation process were the redefinition of poverty to include new dimensions such as vulnerability; food security; access to assets; improved sensitization to gender and decentralization issues; strengthened relationship between government and NGO community; and enhanced ownership of the poverty strategy. The IPRSP emphasizes improved information and participatory assessments.

Ghana has launched a decentralization policy to promote participation and ownership of government policy by shifting the governance from command-and-control to a consultative process and by devolving power, competence and resources to the district level. The administrative and fiscal decentralization, and consultative process to implement the Ghana Vision 2020 framework is the cornerstone of the Ghana's Poverty Reduction Strategy.

Guyana proposes to strengthen participation and accountability through consultation involving target groups in civil society, such as the Amerindian community and trade associations and to solicit discussions through workshops and electronic media. The PRSP places emphasis on capacity building, coordination, information technology and comprehensive household surveys biannually to assess and update regional, gender and poverty profiles.

The *Kenya* IPRSP presents a participation plan for the preparation of the full PRSP. The plan includes information on the objectives to be met; activities to be undertaken at the national, provincial, and district levels; stakeholders to be involved in the consultation process; monitoring indicators proposed; and a time frame for implementing governance indicators. The cost of the plan is about \$1 million.

Lao PDR presents a decentralization policy that forms the basis of the participation process. The decentralization policy permits the provinces, prefectures, special zones and villages to manage revenue and expenditure resources associated with their annual plans. The villages have to observe living conditions of each family and categorize them into wealthy, self-sufficient and poor. Building provinces, prefectures and special zones into strategic units means that these stakeholders have to formulate their own plans and implement them. Lao PDR also proposes to develop focal sites to initiate capacity building at each level. The focal sites are to serve as learning centers and models for given agro-climatic conditions.

Mozambique notes that during the period of 1998-2000, 24 consultations relating to agriculture, energy, fisheries, environment and tourism were conducted, out of a total of 99 consultations involving NGOs in the preparation of the PRSP. Participatory rural diagnoses were conducted in 7 provinces and 21 districts to encourage the participation of communities and civil society organizations, and to strengthen the qualitative insight of the monitoring process. A Questionnaire of Indicators of Well Being is also proposed as part of annual survey with focus on the indices of poverty.

Nicaragua initiated series of consultations for the formulation of the Environmental Policy

and Action Plan (PANic). The first stage consisted of 45 workshops and included 153 indigenous communities. The second stage involved 17 workshops with the active participation of civil society organizations. The Ministry of Agriculture and Forestry, along

with the Environmental and Natural Resource Commission, undertook detailed consultation process involving indigenous communities, and the Municipal Development Plans with the active participation of private sector, civil society and government institutions.

6 Evolution of Mainstreaming from the Interim PRSPs to Full PRSPs

Improved Treatment of Environment Issues in the Full PRSPs

The revision of IPRSPs into full PRSPs improved the treatment of environment, specifically the description of poverty-environment linkages, and responses in terms of measures supporting environment management capacity. Significant improvement in the coverage of environment issues is reflected in the scores of the full PRSPs of Mozambique, Bolivia and Nicaragua in the assessment (Table 3).

Gradual Improvement in the Presentation of Targets, Indicators and in the Context of Long-term International Development Goals

Most PRSPs present targets in a 3-year or 5-year time frame. Targets relating to environmental health in terms of child mortality, access to water and sanitation are presented more explicitly in comparison to other targets relating to deforestation, loss of biodiversity, pollution, status of fish and mining resources. In the context of International Development Goals, several full PRSPs (e.g. Nicaragua, Bolivia, Mozambique, Honduras) present long term goals and targets of variables relating to environment.

Mozambique presents input and process indicators as part of intermediate indicators and result and impact indicators as part of final indicators. There exists further need for refinement of targets, outcomes, impacts, process and the underlying consultation process.

Improvements in the Presentation of Budget Allocation Linked to Targets

A few full PRSPs like Honduras present sector-wise budget allocations in relation to the achievements of targets. Mozambique presents overall resource envelope for 2001 to 2010 and detailed budget allocation for 2000 to 2005. However, there is further scope for improvement in linking targets and budgets.

Impacts of Natural Disasters on the PRSP Implementation

The full PRSPs of Latin America make reference to the risks posed by natural disasters to the implementation of PRSP proposals. Honduras PRSP states that, a disaster of even half the magnitude of Hurricane Mitch would make PRS goals impossible to reach in the medium term and would delay the

Table 3. Transition of mainstreaming scores from IPRSP to Full PRSP

S.No	Country	Score of IPRSP	Score of full PRSP
1	Mozambique	0.5	2.2
2	Honduras	1.6	2.1
3	Nicaragua	1.3	2.0
4	Bolivia	0.7	2.0

achievement of long term goals. Several countries in this group are significantly influenced by natural hazards, e.g. Bolivia, Honduras and Nicaragua. Hence, this type of vulnerability among the poor has received

considerable attention. Kenya, Burkina Faso and Mauritania in Africa and Lao PDR and Cambodia in Asia are strongly dependent upon natural resources, and such considerations feature in their PRSPs.

7 Scope for Improvement

Based on the environment assessment of the PRSPs, the countries may be grouped into two broad categories:

1. Group A: Countries in the range of 1.5 to 3.0 score on the assessment—7 countries
2. Group B: Countries in the range of 0 and 1.5 score on the assessment—33 countries.

Group A Countries

This group includes 5 full PRSPs and 2 IPRSPs. It is encouraging to note that five out of eight full PRSPs fall into this category.

From an environment perspective, some groundwork has been done in these countries, generally best in terms of describing environmental problems. However, special emphasis in future revisions needs to be provided in the analysis of specific poverty-environment links, economic policies and environment, sub-national quantitative and qualitative surveys that should go beyond the general assertions often found, specific information on the environmental interventions and their impacts on poverty, setting of environmental targets, establishing monitoring systems for environmental indicators, and the evolution of participatory processes that will allow the representation of environmental issues articulated by the poor. Areas that need focus in the PRSP include:

Linking targets and budget allocation for the sector: More attention needs to be given to the resource allocations and outcomes. Discussions

about tradeoffs and relationships to MTEF needs to be clear.

Need for improved treatment of goals and targets: to clearly define targets and indicators, combined with disaggregated analysis. The initiative to use regional maps is commendable and deserves to be elaborated.

Institutional issues: The implementation of past environmental plans needs to be analyzed in shaping realistic expectations for the future. All IDA countries have a NEAP or similar, and experience in terms of its implementation needs to be presented.

Long-term perspective: While a few PRSPs explicitly introduce long-term perspective and make reference to long-term IDGs for 2015, this is not the norm. To verify whether the current and medium-term strategies are consistent with achieving those goals, the full timeline needs to be considered.

Group B Countries

In this category, there is limited focus on environment in the PRSPs. The majority of IPRSPs still belong to this group. In addition to directions suggested above for the Group A countries, issues that require emphasis in the PRSPs are summarized as follows:

1. Exposition of the status of environment and its impacts on poverty should cover land, water, air quality, natural resource dependence, processes of degradation, and

- opportunities provided by environmental assets.
2. Improvement in the analysis of poverty-environment relationships at the household, regional and macroeconomic levels.
3. An analysis of environmental management capacity in terms of policy, legislation, programs, and projects.
4. Definition of indicators, targets and monitoring and evaluation systems, as they relate to environment.
5. Efficacy of participatory framework in identifying environmental priorities and their implementation.

8 Next Steps

This report is the fourth in a series, and earlier editions have been widely circulated internal to the Bank and to a limited set of partners pursuing similar objectives. The following steps are anticipated during the next year:

- The report will be widely disseminated external to the World Bank, e.g. through webpage postings, and through the Poverty-Environment Partnership in which the Bank participates among some 20 donors.⁶
- Future editions will contain an increasing sample of PRSPs, and will be able to consider more full PRSPs.
- The review will be extended to include Joint Staff Assessments by the staffs of the World Bank and IMF.
- The review will be extended to include country Progress Reports on the implementation of PRSPs. Few of them are available at this stage, but the number is expected to grow.
- As a complement to this paper, a separate report on how PRSPs include a long-run sustainability perspective, and in particular the Millennium Development Goals, is under consideration.

Appendix A —

Poverty Profiles of PRSP Countries

S No.	Country	Pop. in millions (1998)	Percentage of population below the poverty line			Extreme poverty (%)	Per capita PPP GNP (\$)	Income of lowest quintile (%)	ODA as % of GNP	ODA per capita	HDI
			Rural	Urban	National						
1	Albania	3	30.3	14.7	22.6		2,864		13	53	0.656
2	Armenia	4			55.0	23.0	2074		8	58	0.674
3	Benin	6			33.0		857		13	51	0.378
4	Bolivia	8	79.1	51.0	70.0	38.0	2,205	4.0	11	93	0.593
5	Burkina Faso	11	51.0	16.5	45.3		866	5.5	18	46	0.219
6	Cambodia	11					1246	2.9	17	56	0.422
7	Cameroon	14			50.6	23.0	1395		6	34	0.481
8	C. African Rep.										
9	Chad	7	67.0	63.0	64.0		843		19	37	0.324
10	Ethiopia	61	47.0	33.0	45.5		566	7.1	16	16	0.252
11	Gambia	1			49.0		1428	4.4	19	42	0.291
12	Georgia	5	9.9	12.1	11.1		3429		6	37	0.633
13	Ghana	18	34.3	26.7	31.4	29.0	1,735	8.4	9	37	0.277
14	Guinea	7.0	52.0	24.0	40.3		1,722	6.4	12	53	0.465
15	Guinea Bissau	1.2	70.0		88.0		573	2.1	52	111	0.295
16	Guyana				35.0	21.0		6.3	22	106	0.670
17	Honduras	6	46.0	56.0	50.0		2,338	3.4	10	73	0.573
18	Kenya	16	46.4	29.3	42.0		964	5.0	11	26	0.463
19	Kyrgyz Rep.				55.3	23.3					
20	Lao PDR	5					1683	9.6	16	64	0.465
21	Lesotho	2	53.9	27.8	49.2		2,194	2.8	9	56	0.469
22	Macedonia	2			20.0	5.3	4224				0.749
23	Madagascar	15	76.7	47.1	70.0	32.8	741	5.1	10	20	0.348
24	Malawi	11					551		26	44	0.334
25	Mali	11	74.0		69.0	32.6	673	4.6	18	51	0.236
26	Mauritania	3	76.4	38.0	50.0		1,500	6.2	26	98	0.361
27	Moldova	4			53.4	19.5	1995	6.9	1	14	0.610
28	Mongolia	3	33.1	38.5	36.3	13.9	1463	7.3	24	84	0.669
29	Mozambique	17	71.2	62.0	69.4		740	6.5	86	61	0.281
30	Nicaragua	5	76.1	31.9	50.3	17.3	1,896	4.2	36	160	0.547
31	Rwanda	8			65.0			9.7	42	118	
32	Sao Tome	0.14			41.0	33.0	650				0.563
33	Sierra Leone	5	76	53	68	26.3	445	1.1	11	80	
34	Senegal	9	79.5	30.0	57.9		1,297	6.4	11	80	0.342
35	Tajikistan	6	81.5	18.5	83.0	16.3	1,041		2	11	0.575
36	Tanzania	32	57.0	41.0	51.1		483	6.8	24	29	0.358
37	Uganda	21			44.0		1,072	6.6	19	41	0.340
38	Vietnam	77			37.0		1689	7.8	4	11	0.560
39	Yemen	17					658	6.1	6	11	0.356
40	Zambia	10	88.0	46.0	68.0	57.9	678	4.2	35	251	0.378

Note: ODA—Official Development Assistance.

Source: World Development Indicators 2000, UN Development Indicators 2000 and country PRSPs.

Appendix B —

Natural Resource Profiles of PRSP Countries

S No.	Country	Percentage of area under closed forests	Rate of deforestation (percent) (1990-95)	Percentage of land under protected area	Fresh water withdrawals (m ³ /capita/yr)	Coastal length (km)	Per capita energy consumption (kg oil equivalent)	Primary mineral exports
1	Albania	37.3		2.8	94	649	335	
2	Armenia	21.1		7.6	804	0	508	Copper
3	Benin	15.5	-1.2	7.0	28	153	388	
4	Bolivia	53.9	-1.2	14.4	201	0	547	
5	Burkina Faso	0.0	-0.7	10.4	39	0		
6	Cambodia	65.1		16.2	66	1127		
7	Cameroon	42.4		4.5	38	1799	413	Gold
8	C. African Rep.							
9	Chad	0.0	-0.8	9.1	34	0		
10	Ethiopia	17.3	-0.5	5.5	51	0	294	
11	Gambia	39.1		2.2	29	503		
12	Georgia					376	448	
13	Ghana	8.6	-1.3	4.8	35	758	370	Gold
14	Guinea		-1.1			1614		Bauxite
15	Guinea-Bissau		-0.4			3176		
16	Guyana	97.4		0.3	1819	1154		
17	Honduras	51.6	-2.3	9.9	294	1878	532	
18	Kenya	16.8	-0.3	6.2	87	1586	497	
19	Kyrgyz Rep.							
20	Lao PDR	30.0			259	0		
21	Lesotho	2.4		0.2	30	0		
22	Macedonia			7.1		0	1430	Copper
23	Madagascar		-0.8			9935		Ti, Ni, Co
24	Mali	0.0		3.7	162	0		
25	Malawi	0.0		11.3	98	0		
26	Mauritania					1268		Iron Ore
27	Moldova	3.7		1.2	667	0	1014	
28	Mongolia	22.5		1.3	271			Copper
29	Mozambique	13.6	-0.7	6.1	40	6942	416	
30	Nicaragua		-2.5			1915	550	
31	Rwanda	16.1		14.7	135	0		
32	Sao Tome							
33	Seirra Leone			1.1	98			Diamonds
34	Senegal	16.0	-0.7	11.3	202	1327	316	
35	Tajikistan					0	571	
36	Tanzania	9.1		15.6	40	3461	454	
37	Uganda	5.0	-0.9	9.6	20	0		
38	Vietnam	17.2		3.1	416	11409	515	
39	Yemen	0.0		0.0	253	3149	206	
40	Zambia	7.1		8.6	216	0	694	Copper

Note: Ti, Ni, and Co refer to Titanium, Nickel, and Cobalt.

Source: World Resources 2000-01 and country PRSPs.

Appendix C — Food Security Profiles of Countries

S No	Country	Agr. as percentage of GDP	Food aid as percentage of imports	Daily per capita calorie supply	Daily per capita animal protein	Per capita crop land	Irrig land as percentage of crop land	Annual fertilizer use (kg/ha)
1	Albania	63	9	2,349	682	0.21	49	
2	Armenia	41		1864	404	0.17	52	12
3	Benin	38	13	2,325	104	0.36	1	
4	Bolivia	16	33	2,190	406	0.33	4	4
5	Burkina Faso	35	18	2,471	109	0.34	1	7
6	Cambodia	51	47	1805	163	0.39	4	3
7	Cameroon	41	1	2167	125	0.55	0	4
8	C. African Rep.							
9	Chad	39	31	1,840	113	0.53	0	2
10	Ethiopia	55	50	1,661	101	0.20	2	14
11	Gambia	30	4	2295	126	0.16	1	5
12	Georgia	32		2,614	316		44	
13	Ghana	36	15	2,360	84	0.27	0	3
14	Guinea	23	2	2,232	62		6	
15	Guinea-Bissau	54	5	2,430	165		5	
16	Guyana	36	40	2410	343	0.60	26	30
17	Honduras	20	10	2,352	332	0.37	4	28
18	Kenya	29	10	1,914	241	0.17	1	31
19	Kyrgyz Rep.							
20	Lao PDR	52	44	2106	136	0.19	19	2
21	Lesotho	11	6	2,164	136	0.16	1	19
22	Macedonia	12		2392	488	0.31	8	88
23	Madagascar	32	19	2,022	239		35	
24	Mali	49	21	2,040	192	0.29	2	8
25	Malawi	36	26	1911	56	0.18	2	16
26	Mauritania	25	10	2,622	443		10	
27	Moldova	31		2892	388	0.49	14	53
28	Mongolia		10	1917	845		6	2
29	Mozambique	31	30	1,685	44	0.19	3	2
30	Nicaragua	34	15	2,186	165		3	
31	Rwanda	37	56	2,238	60	0.22	0	1
32	Sao Tome							
33	Sierra Leone		14	2035	66		5	6
34	Senegal	18	1	2,368	193	0.29	3	8
35	Tajikistan		7	2,001				
36	Tanzania	47	18	2,054	129	0.13	4	10
37	Uganda	44	51	2,160	138	0.36	0	
38	Vietnam	26	9	2302	226	0.09	32	192
39	Yemen	18	2	2130	144	0.11	31	7
40	Zambia	16	15	1,954	113	0.67	1	11

Source: World Resources 2000 01 and country PRSPs.

Appendix D —

Environmental Health and Habitat Profiles of Countries

S No.	Country	Percent of population with access to water		Percent of population with access to sanitation		Per capita electricity consumption (kwh)	Crowding (floor area / person m ²) [§]	Percentage of Urban pop. with access to garbage collection [§]
		Rural	Urban	Rural	Urban			
1	Albania	70	97	10	97		8	90
2	Armenia						13	81
3	Benin	53	41	11	60	50	5	25
4	Bolivia	43	88	39	77	409		92
5	Burkina Faso	26	50	5	38	21	12	40
6	Cambodia	33	65	8	81			
7	Cameroon	43	57	36	64		10	60
8	C. African Rep.							
9	Chad	17	48	7	74	14		
10	Ethiopia	20	90			22	16	52
11	Gambia		67	50	51		12	35
12	Georgia							
13	Ghana	52	88		75	342	6	60
14	Guinea	56	50	10	84	74	7	50
15	Guinea-Bissau	57	38	17	32	40		
16	Guyana						11	26
17	Honduras	66	91	71	91	486		
18	Kenya	49	67		35		11	47
19	Kyrgyz Rep.							
20	Lao PDR	51	60	16	98			
21	Lesotho	14	64		5			7
22	Macedonia							
23	Madagascar	10	83	25	64	41	6	
24	Mali	20	56	22	61	27	3	95
25	Malawi	32	80	4	22		7	
26	Mauritania	41	86	19	44	67	10	15
27	Moldova	18	98	8	90		15	83
28	Mongolia	68	100	54	100		9	
29	Mozambique	40	17		68	67	12	37
30	Nicaragua	29	84	34	77	412		
31	Rwanda	44	79					
32	Sao Tome					113		
33	Sierra Leone	21	58	8	17			
34	Senegal	28	82	12	68	93	8	75
35	Tajikistan	32	86	14	83			
36	Tanzania	45	65		6	58	5	25
37	Uganda	32	47	50	60	34	4	20
38	Vietnam	43		20			6	45
39	Yemen	55	88	17	47		4	51
40	Zambia	27	64	37	66	781	7	

Note: § = Crowding and access to garbage collection are the estimates available for the urban areas of the capital city of the country.

Source: World Development Indicators 2000, World Resources 2000-01 and United Nations Social Indicators.

Appendix E —

Infectious Disease Profiles of Countries (per 100,000 population)

S No.	Country	Malaria	Cholera	Tuber- culosis	Polio	Measles	AIDS
1	Albania			19	0.00		
2	Armenia			28	0.08	5	
3	Benin	10,398	3.7	44	0.13	194	9.0
4	Bolivia	480	30.9	130	0.00	1	
5	Burkina Faso	4,637	13.8	14	0.11	54	9.2
6	Cambodia	870	41.8	142	1.30	20	2.9
7	Cameroon	1,067	4.7	57	0.06	19	10.9
8	C. African Rep.						
9	Chad			50	3.03	10	18.9
10	Ethiopia			26	0.35	1	1.5
11	Gambia		1.3	92	0.00	12	6.7
12	Georgia			30	0.00	0	
13	Ghana			24	0.20	232	6.5
14	Guinea	8567	88.5	52	0.37	15	13.4
15	Guinea-Bissau		11.3	163	0.00	49	3.4
16	Guyana	4819		35	0.00	0	
17	Honduras	949	83.3	88			13.7
18	Kenya	23,068	5.7	103	0.04	12	22.4
19	Kyrgyz Rep.						
20	Lao PDR	1111	28.0	25	0.16	65	0.3
21	Lesotho			236	0.00	15	
22	Macedonia	112		36	0.00	10	
23	Madagascar			80	0.00	79	0.1
24	Mali		19.0	29	0.24	31	5.3
25	Malawi	49,410		172	0.00	44	36.6
26	Mauritania			169	0.22	9	0.6
27	Moldova		5.4	66		26	
28	Mongolia	299	11.0	60		23	
29	Mozambique			112	0.00	24	12.6
30	Nicaragua	1035	214.1	64	0.0	0	0.5
31	Rwanda			38	0.02	541	
32	SaoTome						3.0
33	Sierra Leone		245.2	43		8	
34	Senegal		38.8	91	0.01	73	1.6
35	Tajikistan						
36	Tanzania	27,343	5.7	134	0.07	11	
37	Uganda		2.7	120	0.51	217	13.7
38	Vietnam	1189	8.2	47	0.19	8	0.5
39	Yemen	260		99	0.30	1	0.4
40	Zambia	44,498		158	0.07	106	46.9

Note: Though AIDS is not an infectious disease, it has been included because of its impact on the human resource-poverty-environment links.

Appendix F — Format for Scoring in the PRSP Assessment

1. Issues in Focus

	Score 1
1. Land use: degradation, deforestation, erosion, overgrazing, etc.	
2. Water: drinking water, irrigation, fisheries and water pollution	
3. Air: – quality and pollution	
4. Biodiversity & climate change: threats to ecosystem stability, nature-based opportunities	

2. Causal Link Assessment

	Score 2
1. Poverty profile and NR degradation: resource dependence and inequality	
2. Environmental health: communicable and vector borne infections, e.g. diarrhea, malaria	
3. Vulnerability: – impacts of climate variability (hurricanes, floods, drought)	
4. Property rights: tenure and natural resource management	
5. Incentives: price stability, taxation, subsidies, exchange rate, policies, trade, income and employment from natural resources and issues relating to external debt	
6. Empowerment: decentralization and partnerships	
7. Gender: concerns on gender and environment links	

3. Response Systems

	Score 3
1. Environmental management capacity: regulation, legislation, institutional reform, cross-sectoral coordination, information and early warning system, environmental standards and market mechanism through economic instruments like cost recovery, product pricing, private sector participation	
2. Investment in natural capital: Projects and programs relating to land and water resources management and conservation, air quality and pollution abatement	
3. Investment in man made capital: Projects and programs relating to water supply, sanitation, urban infrastructure and housing for poor	
4. Monitoring natural resource outcomes: Forests, protected area, agricultural, soil & water resources, renewable energy use	
5. Monitoring human resource outcomes: Housing, sanitation, preventive care (life expectancy, infant mortality and nutrition), and population growth and welfare	

4. Process

	Score 4
1. Quality and level of participatory process in identifying the poverty-environment links and in the integration of environment into PRSP proposals and implementation	

Score: 0 = Issues not mentioned 2 = Issues elaborated
 1 = Mentioned but not elaborated 3 = Good practice

Notes

1. In this paper we will, for the sake of simplicity, use the term “PRSP” to also include Interim PRSPs when the distinction is not essential.
2. See World Bank and IMF (2002) for a broad review of PRSPs. Environment is given marginal attention in that overall review.
3. For a detailed discussion about environmental indicators, see Shyamsundar (2001).
4. For a qualitative and complementary assessment of environmental mainstreaming in PRSPs, see DFID (2002).
5. This paper reviews good practice in existing PRSPs only. For a much broader perspective on good practice of environmental mainstreaming in PRSPs, see the *Environment* chapter in the Poverty Reduction Sourcebook (Bojö and others 2000).
6. Feedback is encouraged to <<jbojo@worldbank.org>> and <<rreddy1@worldbank.org>>.

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