Making Progress on Environmental Sustainability

Lessons and recommendations from a review of over 150 MDG country experiences

United Nations Development Programme

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UNDP

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Environment and Energy Group
Bureau for Development Policy
United Nations Development Programme
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FOREWORD

The Millennium Development Goals today serve as the framework for sustainable development by setting goals and targets that aim to tackle poverty and promote human development. Together, UNDP and UNEP have been working to support countries in sound environmental management and, in particular, on achieving MDG 7 on environmental sustainability.

UNDP's *"Making Progress on Environmental Sustainability: lessons and recommendations in over 150 country experiences"* documents the progress countries have made towards environmental sustainability. It is clear from this analysis that most counties are not yet on track to reach MDG 7 by 2015. It is also evident that throughout the world, countries are facing similar challenges both in tailoring MDG 7 targets and indicators to their national context, and in strengthening monitoring capacities and systems.

UNDP and UNEP believe that countries can make meaningful progress on environmental sustainability when they align MDG 7 targets and indicators with national development plans. This Report demonstrates that progress can be expedited when countries adopt the principle of environmental sustainability and then adapt targets, policies and programmes to their own specific ecosystem conditions and policy priorities. This publication highlights experiences from countries that have been successful in this and suggests methods for improving monitoring systems and tailoring the MDG targets and indicators.

The collaboration between UNDP and UNEP in launching this publication is part of our growing partnership which includes important joint programmes such as the Poverty and Environment Initiative which aims to scale-up investment and capacity development support for mainstreaming environment in country-led processes to achieve the MDGs. We are also working together to assist developing countries in adapting to climate change and improving their access to the Clean Development Mechanism.

This publication is intended to bring greater awareness of the lessons we are learning from countries around the world on viable approaches towards environmental sustainability and on ways to most effectively integrate this issue in national development strategies.

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- ***Ensuring Environmental Sustainability in the MDG Framework: A Review of Over 150 MDG Country Reports***
- ***Monitoring Country Progress Towards MDG 7: Ensuring Environmental Sustainability Practice Note***
- ***MDG-based National Development Strategy How-to-Guide, Module 1.2 Guidance on Tailoring the MDGs***

Linda Ghanime, UNDP Environmental Operations and Policy Advisor, led the process of MDGR reviews of environmental sustainability, analysis, and guidance preparation.

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Comments on this publication as well as additional contributions, particularly country experiences in adopting MDG 7 in their development policy and planning, are most welcome. Please contact Linda Ghanime (linda.ghanime@undp.org).

ACRONYMS

CIS	Commonwealth of Independent States
CFCs	Chlorofluorocarbons
CO_2	Carbon dioxide
EEA	European Environmental Agency
FAO	Food and Agriculture Organization
GHG	Greenhouse gases
JPOI	Johannesburg Plan of Implementation
LAC	Latin America and the Caribbean
LDC	Least Developed Country
LLDC	Landlocked Developing Country
MDG	Millennium Development Goal
MDGR	Millennium Development Goal Country Report
MICS	Multiple Indicator Cluster Surveys
NEAP	National Environmental Action Plan
NHDR	National Human Development Report
NOx	Nitrogen oxides
NSSD	National Strategies for Sustainable Development
ODS	Ozone-depleting Substances
OECD	Organization for Economic Cooperation and Development
PPP	Purchasing power parity
PRS	Poverty Reduction Strategy
PRSP	Poverty Reduction Strategy Paper
PSR	Pressure-State-Response (model)
SIDS	Small Island Developing States
SOx	Sulfur oxides
SO2	Sulfur dioxide
UNCED	United Nations Conference on Environment and Development
UNCSD	United Nations Commission on Sustainable Development
UNDP	United Nations Development Programme
UNDAF	United Nations Development Assistance Framework
UNEP	United Nations Environment Programme
UNGA	United Nations General Assembly
UNFCCC	United Nations Framework Convention on Climate Change
UN-HABITAT	United Nations Human Settlements Programme
UNICEF	United Nations Children's Fund
UNSD	United Nations Statistics Division
WSSD	World Summit for Sustainable Development

EXECUTIVE SUMMARY

In an attempt to alleviate poverty by 2015, the international community adopted the Millennium Declaration in September 2000. The Declaration constitutes an unprecedented promise by world leaders to address, as a single package, peace, security, development, human rights and fundamental freedoms. The eight Millennium Development Goals (MDGs)—along with a set of targets and indicators—serve as milestones against which to measure international and country progress towards the overall goal of reducing extreme poverty. Each MDG addresses an aspect of poverty and thus envisions a world free of poverty and the negative effects of poverty on sustainable livelihoods. Time-bound and usually quantified, the Goals should be viewed as interdependent because they are mutually reinforcing and progress towards any one goal is dependent on progress towards others.

In order to fulfil their commitment to the MDGs, countries are encouraged to utilize and report on the global targets and indicators; to integrate them into national planning and budgeting; and to set country-specific targets and indicators—that is, to tailor the global targets and indicators to national and local conditions and needs. Monitoring and reporting on the MDGs are methods for measuring global, national, regional and local progress towards poverty elimination. For this reason, countries are encouraged to report annually on all the MDGs in Millennium Development Goals Reports (MDGRs). As of November 2005, 158 countries had submitted such reports.

As part of its support to countries in meeting their Millennium Declaration commitments, the United Nations Development Programme (UNDP) analyses the MDGRs to determine how countries are doing in meeting the goals. This report summarizes the findings from a review of regional and country MDGRs to determine how well countries are doing in monitoring and reporting on Millennium Development Goal 7 (MDG 7)—the goal that seeks to ensure environmental sustainability through a series of targets to be met by 2015.

Millennium Development Goal 7 contains three global targets—Target 9 to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources; Target 10 to halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation; and Target 11 to have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers—and eight global indicators that can be used to measure global progress. While these targets and indicators are a starting point for monitoring country-level progress towards ensuring environmental sustainability, they do not necessarily capture national and local priority issues.

This report examines the MDGRs to see how the 158 countries are doing in terms of tailoring their MDG 7 targets and indicators; how successful they are in capturing progress on sustainability; whether they are moving forward or backward; whether they are identifying cross-cutting linkages between MDG 7 and other MDGs; how country reporting varies by region; and the challenges they face in monitoring and achieving MDG 7. It also details UNDP guidance on how to operationalise MDG 7 and tailor targets and indicators at the country level as well as points to ways in which UNDP supports countries to achieve MDG 7 through better monitoring and reporting. Among the findings:

- **Target setting** Of the 158 countries reviewed, 85 (54 percent) have set at least one country-specific environmental target for achieving MDG 7. This represents an increasing proportion of countries over earlier reviews—9 of 34 (26 percent) countries in 2003; 27 of 67 (40 percent) in 2004; and 49 of 100 (49 percent) in June 2005. Targets on access to water and sanitation (Target 10) are most likely to be tailored, with 58 countries setting at least one tailored target and often with a specific focus on rural populations. Each of the 85 countries with tailored targets has developed an average of three country-specific targets, although not all of these are quantifiable or time-bound, and thus may not be verifiable.
- **Reporting** While all countries report on at least one global environmental indicator, MDG 7 reporting overall is weak. Only eight of the 158 countries report on all global indicators. Indicators related to water and forests have the highest rates of reporting, 138 countries and 133 countries, respectively.

Well over half of the countries use the indicators on protected areas for biodiversity (124 countries), access to sanitation (116 countries) and carbon dioxide and ozone-depleting substance emissions (98 countries). However, only 72 countries report on energy use, 48 countries use the solid fuels indicator and only 47 countries provide data on slums. On the positive side, however, 112 countries (71 percent) are using indicators beyond the MDG 7 framework, compared with 67 of the 100 (67 percent) countries reviewed just six months earlier.

- **Progress** Reporting on MDG 7 progress appears to be hampered by either an actual or a perceived lack of data. To determine progress or regression, at least two data points are needed for quantitative changes to be detectable and verifiable. However, apart from access to water, less than half of countries report sufficient data for monitoring progress. Forest cover is the only indicator for which a large proportion of countries report regression (35 of 65 countries). Positive change in access to water sources is reported by 83 of the 97 countries with data and is the only target for which many countries either have already met the 2015 global drinking water target or will meet it before 2015.
- **MDG linkages** Environmental issues are not highly integrated into the MDG country reports outside of MDG 7 specifically. When environmental issues are discussed in the context of the other goals, the causal link between poverty and the environment is not well articulated nor is a response system developed. Primary linkages are made to poverty concerns (MDG 1), where the poor are perceived to exploit natural resources in an unsustainable manner, and to health issues (MDG 6), where water contamination and air pollution are presented as risks to human health.
- **Regional variation** The extent of tailoring and monitoring MDG 7 differs significantly by region and is often linked to varying national priorities and needs. More countries in Africa and the Arab States, which face significant water scarcity, have tailored Target 10 (water and sanitation) compared to Target 9 (environmental sustainability), whereas all the other regions have more countries tailoring Target 9. For Target 11 (slums), Africa has significantly more countries that tailored this target compared to other regions. Overall, target-setting is practiced largely by countries in Europe and CIS and Asia and the Pacific regions. The issues addressed by at least 70 percent of reporting countries in each region are the following: in Latin America and the Caribbean, forest cover, protected areas and access to water and sanitation; in the Asia and Pacific region, access to water and sanitation, forest cover, and protected areas; in Africa, access to water; in Europe and the Commonwealth of Independent States, access to water, protected areas, forest cover, and emissions; and among Arab States, access to water and sanitation, forest cover and protected areas. Access to water was reported on most frequently by all regions, except by the Latin America and Caribbean region, which reports most frequently on forest cover.
- **Monitoring challenges** Countries face many challenges in monitoring the MDG 7 indicators. These challenges include unreliable and inaccessible data, a lack of statistical capacities, as well as difficulties related to lack of public awareness, legislative and regulatory frameworks, inadequate human resource capacity and the need for more partnerships.
- **Obstacles to progress** Countries also face difficulties in attempting to make progress on MDG 7. Lack of political will, pressure on environmental resources from high use and natural disasters, insufficient governance and planning policies, social unrest and lack of financial resources are among the challenges contributing to lack of environmental sustainability. One of the main challenges is lack of coordination among internal authorities stemming from an unclear definition of roles and responsibilities. Collaboration among the donor community also presents difficulties in terms of country priorities versus those of the donor community.

The review of 158 MDGRs suggests that countries with a clear, evidence-based and widely shared vision of how they want to manage their environmental resources make the most progress towards the goal of environmental sustainability. This requires that countries do not mechanically adopt the global targets and indicators, but rather link them to national development policies and priorities, local context, and ecosystem specificities. Countries do best when they *adopt* the principle of environmental sustainability that is the heart of MDG 7 and then *adapt* that principle to the specific ecosystem conditions and policy priorities of their countries. UNDP has developed guidance on how to do that for the MDGs more broadly.

While the MDG framework is best managed as a group of interrelated targets, MDG 7 warrants particular attention given the weaknesses both in monitoring and in overall progress. This report presents specific steps to be used in tailoring targets and indicators for MDG 7. The steps can be followed in the order offered here or in a different sequence:

1) assess country environmental issues;
2) identify existing priorities;
3) use analytical frameworks to determine additional critical parameters;
4) set country-specific and verifiable targets;
5) select indicators and establish a baseline to track progress;
6) implement monitoring and data gathering systems;
7) analyse and interpret results; and
8) communicate the results to policy makers and the public.

This report includes some examples of countries that have successfully tailored MDG 7 targets and indicators in ways that allow them to move towards national sustainability goals while also contributing to global goals. What is needed are both improved data at the country level and the opportunity to benefit from one another's experience.

UNDP's integrated approach to support countries in accelerating progress towards attaining the MDGs—the 'MDG Support Services'—is designed to aid countries in preparing MDG-based national development planning. It pulls together all of UNDP's efforts in support of the MDGs throughout the world, including those of the Millennium Project. It is designed as a mechanism to engage countries in a policy dialogue that should lead to the policy reforms and development outcomes required to ensure that the MDG targets are achieved by 2015. It is also a foundation for engaging with other UN agencies to make the best use of their particular expertise.

1 OVERVIEW

The extent and distribution of global poverty is increasingly becoming a cause for concern among world leaders. The world's poor die at a young age and the poorest have a lower life expectancy than the privileged. Among the main causes of poverty is ill-health (Baudouy et al. 2004), which can often be attributed to water-borne diseases and acute respiratory infection. In Africa alone, poverty and hunger, lack of employment, disease, malnutrition, lack of shelter, gender inequity and environmental deterioration are the main challenges in addressing poverty (Fosu 2005).

1.1 THE MILLENNIUM DEVELOPMENT GOALS

During the United Nations Millennium Summit in September 2000, 189 nations adopted—and 147 heads of state and government signed—the Millennium Declaration, which constitutes an unprecedented promise by world leaders to address, as a single package, peace, security, development, human rights and fundamental freedoms. The Millennium Development Goals (MDGs) are drawn from the global actions contained in the Millennium Declaration and are part of the road map for its implementation. The eight MDGs represent an ambitious agenda for reducing poverty and improving lives; they range from halving extreme poverty and halting the spread of HIV/AIDS to the building of global partnerships. Each goal comprises targets to be attained by 2015. (See Box 1 for a list of MDGs.) Countries are encouraged to report annually on all the MDGs in Millennium Development Goals Reports (MDGRs), which 'serve as unique benchmarks to analyze trends and to identify achievements, challenges and obstacles. Producing the MDG country reports is a way to foster and focus public debate at national and sub-national levels on specific development priorities, which in turn is aimed at triggering action—in terms of policy reforms, institutional change, and resource allocation' (UN 2002).

Box 1 The Millennium Development Goals

Goal 1	Eradicate extreme poverty and hunger
Goal 2	Achieve universal primary education
Goal 3	Promote gender equality and empower women
Goal 4	Reduce child mortality
Goal 5	Improve maternal health
Goal 6	Combat HIV/AIDS, malaria and other diseases
Goal 7	Ensure environmental sustainability
Goal 8	Develop a Global Partnership for Development

The MDGs each address an aspect of poverty and thus envision a world free of poverty and the negative effects of poverty on sustainable livelihoods. Time-bound and usually quantified, the MDGs should be viewed as an interdependent set because they are mutually reinforcing and progress towards any one goal is dependent on progress towards others. Achieving the goals should mean that all countries have access to resources that would improve the standard of living of their populations; the combination of fairer trade, debt reduction and more and better aid implicit in countries' commitments should result in additional money for health care infrastructure and thus better care and access to treatment. In this way, the MDGs have galvanized unprecedented efforts to meet the needs of the world's poorest people. Achieving the goals will not be easy, but progress achieved so far in some countries and regions shows what can be done. For example, China reduced its number in poverty from 360 million in 1990 to about 210 million in 1998. The goals can be met, but it will take hard work.

The United Nations Development Programme (UNDP) has taken a lead role in providing support to countries in meeting the MDG targets and has developed a strategy comprising four core elements[1]:

- tracking progress towards the MDGs from MDGRs submitted by developing countries;
- providing recommendations on how best to make progress on the MDGs through a special research initiative called the Millennium Project;
- building global support for the MDGs and supporting advocacy and awareness through the Millennium Campaign; and
- conducting operational activities that both facilitate progress in achievement of the MDGs at the country level and report to the global community on such progress. UNDP's MDG Support Services supports this effort by providing services on i) MDG-based diagnostics, investment and planning; ii) widening policy options; and iii) strengthening national capacity to deliver.

1.2 ENVIRONMENTAL SUSTAINABILITY IN THE GLOBAL MDG FRAMEWORK

Environmental sustainability is integral to and a key pillar of sustainable development. While the term 'environmental sustainability' that is at the heart of the seventh goal (MDG 7) is not explicitly defined in the Millennium Declaration, countries concur that 'we must spare no effort to free all of humanity, and above all our children and grandchildren, from the threat of living on a planet irredeemably spoilt by human activities, and whose resources would no longer be sufficient for their needs' (UNGA 2000). World leaders identify 'respect for nature' as a fundamental value required in the twenty-first century and call for a 'new ethic of conservation and stewardship'. They also reaffirm support for the principles of sustainable development (UNGA 1992), including those articulated in Agenda 21 (UNDESA 1992).

The global MDG framework contains targets and indicators that can be used to measure global progress towards achieving each of the goals. In the case of MDG 7, the targets and indicators are illustrative of key global environmental issues and commitments. Because they are global in nature, they require responses from both developed and developing countries, with common but differentiated responsibilities. The framework assumes that improvements at the national level would impact regional and global trends through meeting the targets by 2015.

1. More information on UNDP support to the MDGs can be found at http://www.undp.org/mdg/.

Table 1 MDG 7 global targets and indicators

TARGETS	INDICATORS
9 Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	25 Proportion of land area covered by forests 26 Ratio of area protected to maintain biological diversity to surface area 27 Energy use per $1 GDP 28 Carbon dioxide emissions (per capita) and consumption of ozone-depleting chlorofluorocarbons 29 Proportion of population using solid fuels
10 Halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation	30 Proportion of population with sustainable access to an improved water source, urban and rural 31 Proportion of population with access to improved sanitation
11 Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers	32 Proportion of households with access to secure tenure

Source: UNDP Targets and Indicators (http://www.undp.org/mdg/goallist.shtml).

The MDG 7 framework—achieving environmental sustainability—contains three global targets and eight global indicators. (See Table 1.) However, the targets and indicators used to assess global progress towards achieving MDG 7 do not add up to a perfect system. The choice of indicators in the MDG 7 framework is based on an imperfect match between major environmental conventions and the data available across the world and for a wide range of countries. One complexity in monitoring MDG 7 indicators is the lack of a comprehensive framework or a means of integrating different components of environmental sustainability. Not included, for example, are such issues as the availability of quality arable land or the productivity of fish stocks. This weakness can be exacerbated at the national level if countries mechanically adopt the global set of targets and indicators without explicitly linking them to national priorities and policies, local context, or sub-national and ecosystem specificities.

Moreover, unlike most of the other MDGs, there are no standard, quantitative targets set for MDG 7, nor is there a universal understanding of the goal. Indeed, Target 9 under MDG 7, 'to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources', is the only qualitative MDG target. This fact, coupled with the holistic and complex nature of environmental sustainability, makes it especially challenging to measure progress towards this target at the global and country levels. No blueprint exists for integrating the principles of sustainable development into country policies and programmes nor is there any clearly emerging successful pathway of practice. As the analysis summarized in chapters 2 through 7 shows, both monitoring and actual progress on reaching MDG 7 needs to be strengthened significantly.

1.3 MOVING BEYOND THE GLOBAL MDG FRAMEWORK: TAILORING MDG 7 TARGETS AND INDICATORS

The global MDG 7 targets and indicators are a starting point for monitoring country-level progress towards ensuring environmental sustainability. Yet while the global indicators provide essential information on global responses, they often have only limited relevance for developing countries, as they do not always capture national and local priority issues and usually need to be complemented with country-specific targets and indicators. Environmental resources are country-specific and unequally distributed, often similar between neighbouring countries but requiring context-specific responses and targets that address different development paths, according to resources and capacities.

To translate the vision of the MDGs into national reality, countries need to make the goals relevant to their specific national contexts by identifying targets to work into policies and programmes for implementation as well as complementary indicators to measure progress towards those targets and the overall goal. For each

of the goals, including MDG 7, what is needed is a broad-based national MDG process in which countries set country- and context-specific targets and indicators. In other words, they need to adapt—not merely adopt—the MDG targets and indicators. However, not all countries have embraced tailoring the MDGs, and simply monitoring and reporting on country progress towards ensuring environmental sustainability has proven to be a formidable task.

Adapting the MDG targets and indicators to reflect national development priorities is a necessary step for taking ownership of the development agenda. Such 'tailoring' needs to be done for a variety of reasons:

- *Different development levels:* Some countries are more advanced and are track to meeting the global targets by 2015 or earlier; others might not be able to achieve the global targets by 2015.
- *Different development needs:* Countries set national targets to reflect national priorities. Targets tailored to national priorities provide a mechanism for measuring the effectiveness of policies in responding to country needs. By tailoring, countries can set targets that are more ambitious (called the MDG-Plus countries) or less ambitious than the global MDG targets, depending upon their national development strategy.
- *Different development contexts:* Adapting MDG targets is crucial for making global goals fit with national realities; a balance needs to be struck between ambition and realism. Setting realistic time lines for achieving goals and targets is also part of this process.

Tailoring targets and indicators is really about identifying gaps in MDG progress and adapting the framework to meet the needs, priorities and goals of the country.

1.4 ABOUT THIS REPORT

As part of UNDP's support to countries in meeting their Millennium Declaration commitments, UNDP analyses the MDGRs to determine how countries are doing in meeting the millennium goals. UNDP has issued periodic reports analysing the MDGRs and tracking progress with respect to achieving environmental sustainability, each analysis building on the other. The reports monitor regional and country reporting on the changes in the state of environmental resources and their impacts on sustainable livelihoods in order to provide and share information on progress or lack thereof in meeting the MDG 7 targets and on the challenges that countries are facing in meeting and reporting on progress towards these targets.

As of November 2005, 158 countries had prepared at least a first MDGR, with 13 countries having prepared two such reports and two countries (Cameroon and Viet Nam) having prepared three reports[2]. In the few cases where countries have produced more than one report, information and data from all reports are used. See Annex A for a list, by region, of countries reviewed. This report summarizes findings from the review of these 158 MDG country reports to determine how well countries are doing in monitoring progress on MDG 7. It details how the 158 countries are doing in terms of tailoring their MDG 7 targets (Chapter 2), how successful they are in selecting appropriate indicators and measuring progress on sustainability (Chapter 3), whether they are moving forward or backward (Chapter 4), cross-cutting linkages between MDG 7 and other goals (Chapter 5), variations by region (Chapter 6), and the challenges they face in monitoring and achieving MDG 7 (Chapter 7). Annex E provides a brief description of the country MDGR review process as well as the UNDP website link to the document containing detailed information drawn from each of the 158 countries. Chapter 8 spells out the UNDP guidance on how to operationalise MDG 7 and tailor targets at the country level, and Chapter 9 points to ways in which UNDP can help countries achieve MDG 7 as well as improve their monitoring and reporting.

The hope is that this report provides valuable information to the global community as to the effectiveness of existing strategies for ensuring environmental sustainability, and that it will aid countries in addressing the challenges associated with target and indicator setting and monitoring. By offering tools and pointing to best practices, this information can help countries tailor their targets for environmental sustainability, select relevant indicators to monitor progress towards these targets, and develop more effective sustainability strategies. Annex F offers an extensive list of resources on the MDGs and on MDG 7 in particular for guidance towards these practices.

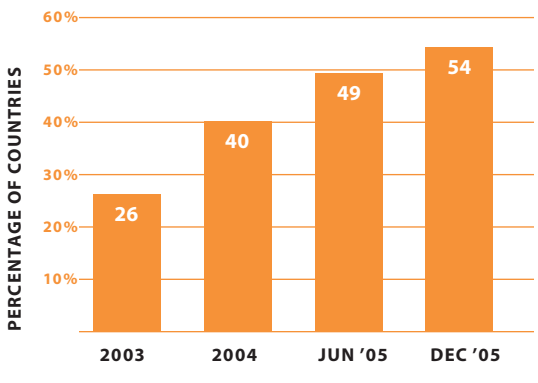
2. All country and regional MDG reports can be found on the United Nations Development Group (UNDG) website (http://www.undg.org/content.cfm?id=499).

2 ARE COUNTRIES TAILORING MDG 7 TARGETS?

FINDINGS: **Countries are enhancing the practice of adapting MDG targets to existing national priorities and aligning them to national development plans. An increasing number of countries—9 of 34 countries (26 percent) in 2003; 27 of 67 (40 percent) in 2004; 49 of 100 (49 percent) in June 2005; and 85 of 158 (54 percent) in December 2005—are tailoring MDG 7 targets and setting additional targets aligned to the global indicators as well as adding targets for specific issues beyond the MDG 7 framework (such as solid waste management and wastewater treatment).**

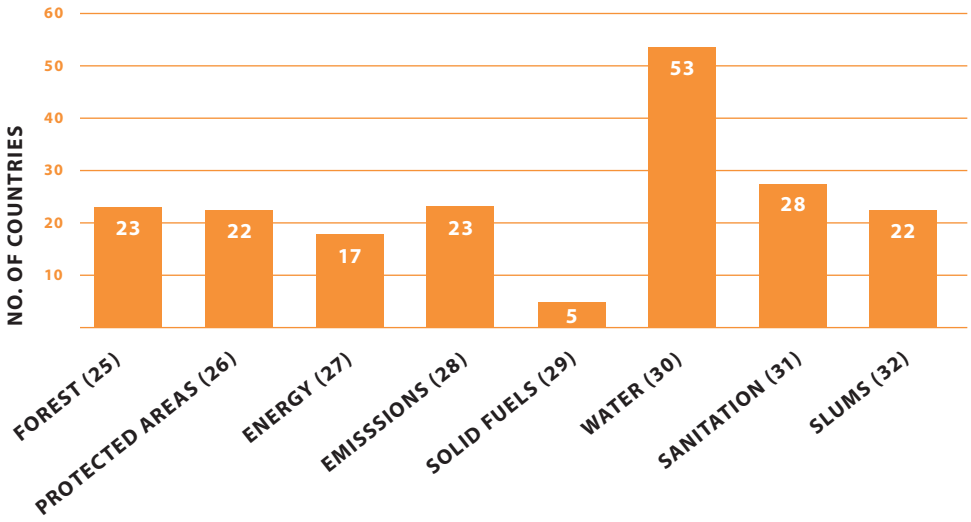
The global MDG 7 targets were set to track global progress on environmental sustainability, but individual country needs, circumstances and priorities differ significantly, and tailoring the targets to country conditions is essential for worldwide progress. Some countries may have already achieved the global targets or may focus on environmental issues not employed in the MDG 7 framework. It is therefore expedient that countries both adopt national targets and tailor the global targets to meet country-specific needs and challenges. In tracking country practices in target-setting, UNDP has been able to identify trends as well as the linkages between tailoring and progress towards environmental sustainability. (See Figure 1.)

FIGURE 1 Percentage of countries tailoring MDG 7 targets, by year



Since UNDP began reviewing MDGRs in 2003, analysis of country reports shows that many countries, especially transition countries, have tailored the MDG 7 targets with increasing success. Given the number of indicators associated with Target 9 (indicators 25 through 29), tailoring for this target tends to be more comprehensive and allows for a wider range of target-setting than for Targets 10 and 11. However, more countries tailor Target 10 and have country-specific targets for improving access to water and sanitation. (See Figure 2.) This chapter discusses the extent to which countries have tailored the three global MDG 7 targets and developed specific targets for environmental issues outside of the MDG 7 framework.

FIGURE 2 Number of countries tailoring MDG 7 targets



2.1 TAILORING TARGET 9

Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.

While Target 9 is neither quantitative nor time-bound, it contains five indicators to measure progress towards Target 9—forest cover, protected areas for biodiversity protection, energy efficiency, carbon dioxide emissions and consumption of ozone-depleting substances, and solid fuels—and offers the possibility of setting targets around these issues. Overall, the MDG framework structure clearly is a determinant in the choice by countries to tailor targets to a country context. Table 2 gives some examples of specific time-bound and verifiable targets established by countries tailoring Target 9 to their own circumstances.

Table 2 Target 9: Examples of country/context specific tailoring, including both modified and new targets

FOREST COVER (Indicator 25)	⚙ Maintain forest cover at 60% (2000 level) through 2015 (Cambodia) ⚙ Maintain at least 30% of total land area under forest cover and bring at least 75% of that area under management (2000-2010) (Gambia) ⚙ Increase afforestation rate from 27% to 35% by 2040 (Romania) ⚙ Increase forest cover from 11.9 million ha in 2000 to 12.8 million ha in 2015 (Senegal) ⚙ Increase forest cover by 115,000 ha between 2002 and 2006 (Tunisia) ⚙ Extend forest cover to 43% by 2010 (Viet Nam)
PROTECTED AREAS FOR BIODIVERSITY (Indicator 26)	⚙ Increase ratio of protected territories from 34.9% in 1990 to 35.9% in 2015 (Bulgaria) ⚙ Maintain 23 protected areas (3.3m ha, 1993) and 6 forest-protected areas (1.35m ha) through 2015; Increase the surface of fish sanctuaries from 264,000 ha in 2000 to 580,800 ha in 2015 (Cambodia) ⚙ Consolidate protected areas of the National Natural Parks System, incorporating 165,000 new ha and formulating socially decided plans for all areas (Columbia) ⚙ Increase proportion of areas covered by natural protectorates to 25% by 2015 (Egypt) ⚙ Increase area protected to maintain biological diversity from 0.2% in 1990 to 1.9% in 2015 (Kyrgyzstan) ⚙ Increase land area protected to maintain biological diversity from 13.2% in 2000 to 30% in 2015 (Mongolia) ⚙ Achieve 15% of surface area protected to maintain biological diversity by 2015 (Qatar) ⚙ Increase proportion of protected land area from 2.56% in 1990 to 19% by 2015 (Romania) ⚙ Increase area protected for biological diversity from 8% in 1990 to 12% in 2015 (Senegal) ⚙ Increase area protected to maintain biodiversity to 10% by 2015 and terrestrial conservation to 8% and marine to 20% by 2010 (South Africa)
ENERGY USE (Indicator 27)	⚙ Increase access to commercial energy from 10-35% in 20 years (Angola) ⚙ Decrease output by unit of energy consumed in 1995 PPP US$ from 5.2 in 2000 to 4.9 in 2015 (Bosnia and Herzegovina) ⚙ Install solar electric power in 16 secondary schools; Increase customer connections to 150,000 per year in rural areas (Kenya) ⚙ By 2010, increase the consumption of renewable energy resources to 43% from 32.2% in 2003 (Latvia) ⚙ Increase the number of vehicles using CNG fuel from 500 in 1990 to 920,000 in 2015 (Pakistan) ⚙ Increase use of renewable energy in electricity generation from 29% in 1999 to 33.6% in 2015 (Slovenia) ⚙ Increase share of renewable energy to 8% of commercial primary energy by 2011 (Thailand)
EMISSIONS (Indicator 28)	⚙ Reduce CO_2 emissions against 1988 baseline in fulfilment of Kyoto Protocol obligations (Bulgaria) ⚙ Reduce consumption of CFCs to zero tons by 2015 (Chile, Peru) ⚙ Reduce GHG emission by 8% from 1990 levels (Latvia) ⚙ Reduce consumption of CFCs to 27.15 mt by 2005 and phase out consumption of ODS by 2010 (Myanmar) ⚙ Reduce greenhouse gas emissions by 8% of CO_2 equivalent between 2008 and 2012 (Romania)
SOLID FUELS (Indicator 29)	⚙ Decrease proportion of population using solid fuels to 80% in rural and 80% in urban areas by 2015 (Afghanistan) ⚙ Reduce fuelwood dependency from 92% in 1993 to 53% in 2015 (Cambodia) ⚙ Reduce by 2010 the consumption of fossil fuels by 25% per GDP unit (Latvia) ⚙ Decrease use of firewood to 47.428 TJ by 2015 (Peru)

FOREST COVER

A total of 23 countries—including 21 developing countries and 2 donor countries[3] —have set country-specific targets addressing the increase or maintenance of forest cover. These tailored targets related to forest cover range from reafforestation, rehabilitation and forest management programmes to reclamation of land for forest cover to reducing deforestation and soil erosion.

PROTECTED AREAS FOR MAINTAINING BIOLOGICAL DIVERSITY

A total of 22 countries[4] have set targets to increase protected areas to maintain biodiversity. While few countries set targets related to specific issues of biodiversity and protected areas, South Africa seeks to increase protection of terrestrial and marine biodiversity and Cambodia focuses on fishing sanctuaries.

ENERGY EFFICIENCY AND USE

Seventeen countries—including 15 developing countries and two donor countries[5] —have set country-specific targets related to energy. These tailored targets focus primarily on reducing the per capita use of energy and increasing energy efficiency. Countries, such as Angola and Kenya, also aim to increase access to electricity and increase the use of renewable sources of energy.

CARBON DIOXIDE EMISSIONS AND OZONE-DEPLETING SUBSTANCES

A total of 23 countries—including 16 developing countries and 7 donors[6] —set country-specific targets to reduce emissions of CO_2, which are typically aligned with Kyoto Protocol obligations. Countries also set targets to reduce CFC consumption, where countries such as Latvia and Romania focus on reducing all GHG emissions.

BIOMASS AND SOLID FUEL USE

Five countries[7] have set country-specific targets to reduce the use of solid fuels. While target setting for solid fuels is still low, all five countries set quantifiable and time-bound targets for reducing the use of fuelwood and other biomass. For example, Cambodia aims to reduce fuelwood dependency from 92 percent in 1993 to 52 percent by 2015.

2.2 TAILORING TARGET 10

Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.

As part of the global MDG 7 framework, access to water and sanitation in both rural and urban populations are associated with Target 10. Improved water and sanitation are clearly regarded as critical to achieving not only environmental sustainability but also overall poverty reduction; 58 countries have country-specific targets in one or both of these areas. Table 3 provides some examples of how countries have tailored the global Target 10 for increasing access to both water and sanitation above the global expectations and often before the 2015 target date.

3. These 23 countries include Algeria, Bhutan, Bosnia and Herzegovina, Brazil, Cambodia, Central African Republic, Colombia, Costa Rica, Denmark, East Timor, FYR Macedonia, Gambia, Germany, Kenya, Lao PDR, Moldova, Myanmar, Pakistan, Romania, Senegal, Sierra Leone, Tunisia and Viet Nam.
4. These 22 countries include Albania, Bosnia and Herzegovina, Brazil, Bulgaria, Cambodia, Colombia, Costa Rica, Egypt, FYR Macedonia, Gabon, Gambia, Kyrgyzstan, Lithuania, Moldova, Mongolia, Myanmar, Pakistan, Qatar, Romania, Senegal, South Africa and Ukraine.
5. These 17 countries include Angola, Bosnia and Herzegovina, Central African Republic, Congo, Costa Rica, Kenya, Latvia, Liberia, Macedonia, Pakistan, Peru, Portugal, Russia, Serbia, Slovenia, Sweden and Thailand.
6. These 23 countries include Bulgaria, Chile, China, Colombia, Denmark, European Commission, Germany, Kazakhstan, Lao PDR, Latvia, Lithuania, Myanmar, Netherlands, Norway, Peru, Romania, Russia, Slovakia, Slovenia, Sweden, Ukraine, United Kingdom and Viet Nam.
7. These five countries include Afghanistan, Cambodia, Kenya, Latvia and Peru.

Table 3 Target 10: Examples of country/context-specific tailoring, including both modified and new targets

DRINKING WATER (Indicator 30)	❁ By end of Ninth Five-Year Plan 2007, 100 percent of population will have access to safe drinking water (Bhutan) ❁ Supply water to 26m people in water-scarce areas and add 40b m^3 water supply in the Tenth Five-Year Plan (China) ❁ Increase the rate of access to potable water from 49% in 1999 to 90% by 2010 (Guinea) ❁ Provide quality water to 95% of the population by 2010 (Guyana) ❁ In Rodrigues, raise the level of water quality to 75% by 2005 and fully respect the international norms by 2015 (Mauritius) ❁ Provide 70% of the population with access to drinking water by 2006 (Niger) ❁ Increase proportion of population with access to improved water source from 82% in 2001 to 85% by 2010 and 100% by 2015 (Sri Lanka) ❁ Provide 100% of population with sustainable sources of fresh water by 2015 (Syria) ❁ Provide 93% of the population with access to safe water by 2015 (Viet Nam)
SANITATION (Indicator 31)	❁ Increase percentage of the population with sewerage disposal from 33% in 2000 to 36% in 2007 (PRSP target) and 40% in 2015 (Bosnia and Herzegovina) ❁ Increase proportion of rural population with access to improved sanitation from 8.6% in 1996 to 30% in 2015 and proportion of urban population with access to improved sanitation from 49% in 1998 to 74% in 2015 (Cambodia) ❁ Increase proportion of population using adequate sanitation facilities from 25% in 2000 to 50% by 2015 (Mongolia) ❁ Increase the proportion of the population with access to improved sanitation from 80% in 2001 to 93% by 2015 (Sri Lanka) ❁ Increase population with access to improved sanitation from 55% in 1990 to 85% in 2015 (Syria) ❁ Have access to sanitation to 100% of rural households by 2015 (Zimbabwe)

INCREASED ACCESS TO SAFE WATER SUPPLY

In 53 countries (including one donor country), country-specific targets relate to access to safe water. This is the target that the greatest number of countries has tailored, addressing both water quantity and quality. Some countries have actually set time-bound targets so that, by 2015, 100 percent of the population should have access to safe water, and many have set specific targets for increasing access in rural areas. In general, targets reflect changes in water infrastructure and distribution and some, such as Bhutan and China, have linked their MDG target to its national development plan.

IMPROVED BASIC SANITATION

Twenty-eight countries, including one donor country, have set country-specific targets for improving the level of sanitation for their populations. In general, countries have tailored the global target on sanitation to increase, by more than half, the proportion of its population with access to improved sanitation in both rural and urban areas.

2.3 TAILORING TARGET 11

Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers

The global MDG framework cites one issue as part of Target 11—*proportion of households with access to secure tenure*. Fewer countries have set country-specific targets for Target 11 than for any other global MDG 7 target. Twenty-two of the 158 countries have tailored targets to improve the lives of slum dwellers. The main thrust of the targets is in providing additional and adequate housing for the population and by reducing the cost of construction. South Africa, for example, has set a target of providing housing for all by 2015, Vietnam aims to ensure no slums and temporary housing by 2010 and to improve household services, the Democratic Republic of Congo seeks to increase the distribution of electrical services. Table 4 provides examples of quantifiable and time-bound targets set to increase secure tenure and to reduce slum populations.

Table 4 Target 11: Examples of country/context-specific tailoring, including both modified and new targets

SLUMS (Indicator 32)	❁ Increase the percentage of land parcels with secure title from 15% in 2000 to 60% in 2015 (Cambodia) ❁ Reduce to 4% households that live in insecure tenure by 2020 (15% by 2010 and 10% by 2015 (Chile) ❁ By 2010, reduce to a minimum of 1.8% the population living in slums; 10.7% those living in insecure tenure; 11.2% those living in bad housing conditions; 4.7% those in overcrowded conditions (Costa Rica) ❁ By 2015 have zero slum households (South Africa) ❁ Increase provision of housing from 17.8 sq m per capita in 2000 to 35 sq m in 2020; increase share of private housing to 97% by 2020 (Turkmenistan) ❁ Ensure there are no slums and temporary houses in all towns and cities by 2010 (Viet Nam)

2.4 COUNTRY-SPECIFIC TARGETS BEYOND THE GLOBAL MDG 7 FRAMEWORK

In addition to tailoring the MDG 7 targets aligned with global indicators, some countries have set and reported on targets that are not directly related to the global MDG 7 framework, such as solid waste disposal, wastewater treatment, environmental investments, and environment-related health and education. Table 5 gives examples of country-specific targets for issues beyond those in the global MDG 7 framework.

Table 5 Beyond MDG 7: Examples of country/context-specific tailoring, including both modified and new targets

POLLUTION	❁ Decrease total discharge of major pollutants by 10% between 2000 and 2005 (China) ❁ Decrease sulphur content in high speed diesel from 1% in 1990 to .25-.5% in 2015 (Pakistan) ❁ Stabilize ambient air pollution from stationary and mobile sources by 2015 (Ukraine) ❁ Attain national standards in air and water pollution by 2005 (Viet Nam)
WASTE	❁ Full utilization of recycled wastewater at the expected level of 200,000 cubic m per day by 2010 (Bahrain) ❁ Increase proportion of population covered by organized waste collection and disposal system from 80.2% in 2001 to 95% in 2015; increase proportion of towns (population greater than 2,000) served by wastewater treatment from 40% in 2001 to 100% in 2015 (Bulgaria) ❁ Increase the share of municipal waste recycled to 30% by 2006 (Thailand) ❁ Ensure by 2010 that all wastewater in towns and cities is treated; ensure by 2010 that all solid waste is collected and disposed of safely in all towns and cities (Viet Nam)
WATER USE	❁ Increase reserves of underground water by 1.024 million m3/day until 2010 (Turkmenistan) ❁ Reduce by 30-35% the volume of irrigation water used per hectare of irrigated land by 2015; Water savings ensured by 2015 up to 15-20 percent cubic km; ensure by 2010 water supply of 21-23 cubic km per year to the Aral Sea and nearby territories (Uzbekistan)
LAND	❁ Increase percentage of demined fields from 5% in 2000 to 20% in 2007 and 80% in 2015 (Bosnia and Herzegovina) ❁ Opium eradication by 2005 and an end to slash-and-burn cultivation by 2010 (Lao PDR) ❁ By 2020, increase commercial use of land and natural resources through improvements in environmentally friendly technologies (Papua New Guinea) ❁ Agricultural growth to accelerate from 3.1% in 2001 to 4.9% by 2006 (Philippines)
OTHERS	❁ Increase the proportion of fishing lots released to local communities from 56% in 1998 to 60% in 2015; Increase the number of community-based fisheries from 264 in 2000 to 589 in 2015 (Cambodia) ❁ Increase the percentage of education institutions that use the programme on Education for Sustainable Development (ESD) to 30% in 2015 from 2% in 2000 (Chile) ❁ Mobilization of stakeholders (Guinea) ❁ Reduce disease occurring due to unhealthy environment by 50% by 2015 (Sri Lanka)

These targets are usually aligned with a country's existing national development strategy plans, including Poverty Reduction Strategies, and address key priorities. Pakistan, for example, aligned its 2015 MDG targets with 2006 targets in its Poverty Reduction Strategy Paper (PRSP) and with 2011 targets detailed in the Ten-Year Perspective Development paper. (See Box 2.)

Box 2 Pakistan: aligning MDG targets with national development strategies

In its MDG Report, Pakistan tailored the global MDG 7 targets and indicators to national priorities. Pakistan monitors most of the global MDG 7 indicators, but does not report on all of them. For example, it does not report on the indicators on CO_2/ODS emissions, but it does report on vehicle fuel use and emissions. In addition, Pakistan set country-specific targets for forest cover, wildlife conservation, energy efficiency, pollution reduction, access to water and sanitation services, and slum areas.

Pakistan's environmental targets are aligned to its Ten-Year-Perspective Development Plan (2001-2011) and its 2003 PRSP. The MDGR reported that the on-farm water management programme aims to renovate 90,000 existing watercourses to enhance irrigation efficiency by as much as 70 percent to economize water use and to control water logging and salinity. The PRSP sets and reports on the same target for water conservation; it states that 45,000 out of 135,000 watercourses have already been lined and that the Government plans to renovate the remaining 90,000 watercourses. With regard to challenges to water supply, both the MDGR and the PRSP attribute the causes of shrinking capacity of existing reservoirs to silting. The PRSP set additional environmental targets to decrease the cost of treating disease from air pollution, increase percentage of total solid waste managed, eliminate ODS, reduce emissions of GHGs, decrease land affected by desertification, and increase the proportion of projects subject to environmental impact assessments and initial environmental evaluations.

Source: Based on data in Pakistan's 2005 MDGR and Government of Pakistan (2001, 2003).

Countries have introduced a variety of additional targets to meet the specific national priorities and needs. With respect to the objectives of Target 9, countries generally set targets in response to specific situations where national priorities are not covered explicitly under the global framework and consequently may not be understood to be part of the broad goal of 'integrating the principles of sustainable development into country policy and programmes and reversing the loss of environmental resources'. This is an example where the consequences of the ambiguity in the MDG framework on country progress are apparent. Agricultural practices and air and water pollution are specific priorities for many countries. For example, Lao PDR has set a national target of reducing shifting cultivation and slash-and-burn agriculture, and the Philippines seeks to increase the acreage under cultivation. Cambodia has introduced targets that extend the establishment of community-based fisheries.

In terms of water and sanitation issues as part of Target 10, many countries interpret the target beyond increasing access to water and sanitation sources. Countries, such as Bulgaria, Thailand and Viet Nam have also made solid waste a priority, setting targets to enhance collection and recycling systems. Viet Nam's Comprehensive Poverty Reduction and Growth Strategy targets on wastewater treatment and solid waste collection are considered MDG targets and reported in its MDGRs.

Beyond increasing access to secure tenure (Target 11), countries aim to improve other conditions in the lives of slum dwellers. Chile, for example, focuses on enhancing environment-based education. The need to reduce disease by creating a cleaner environment is a priority for Sri Lanka, and Bosnia and Herzegovina considers the clearing of minefields a critical target, aligning their 2007 PRSP target of 20 percent cleared and setting an MDG target of 80 percent cleared by 2015.

Just as important to tailoring country-specific targets is systematically monitoring progress in meeting those targets towards MDG 7. The analysis of country reports shows that countries tailoring the global targets typically use the associated global indicators for measuring progress, while over half of the countries use indicators outside the global framework. Countries that develop targets beyond the MDG 7 indicator framework to meet other development priorities also identify associated indicators outside the framework.

3 ARE COUNTRIES MONITORING AND REPORTING MDG 7 GLOBAL INDICATORS?

FINDINGS: While all countries report on at least one environmental indicator, reporting on the global MDG 7 indicators for measuring environmental sustainability has been weak overall. Only eight countries report on all eight indicators. Indicators related to water and forests have the highest rates of reporting, 138 countries and 133 countries, respectively. However, monitoring and reporting of energy, solid fuels and secure tenure indicators remain significantly low. Despite these obstacles, countries are enhancing reporting by introducing indicators beyond those included in the MDG 7 framework. Tailoring and monitoring environment indicators have improved, where 112 countries (71 percent) are using indicators beyond the MDG 7 framework, compared with 67 of the 100 countries (67 percent) reviewed just six months earlier. Issues such as wastewater treatment, solid waste collection, agricultural land area and land degradation are among the priority areas for which countries have included indicators in their MDG reporting of progress.

The global MDG 7 framework includes eight environment indicators in which to monitor progress towards the three MDG 7 targets—forests, protected areas, energy, CO_2/ODS emissions, solid fuels, access to water and sanitation, and access to secure tenure. When added together, however, they do not yield a complete picture of environmental sustainability. Lack of available official data also makes it difficult to monitor progress. In addition to tailoring the MDGs, improving the MDG 7 monitoring situation requires selecting appropriate indicators for monitoring progress on national development priorities and outcomes.

This chapter provides information on the number of countries reporting on each of the eight global MDG 7 indicators; reporting on environmental issues beyond issues covered in the MDG 7 framework and

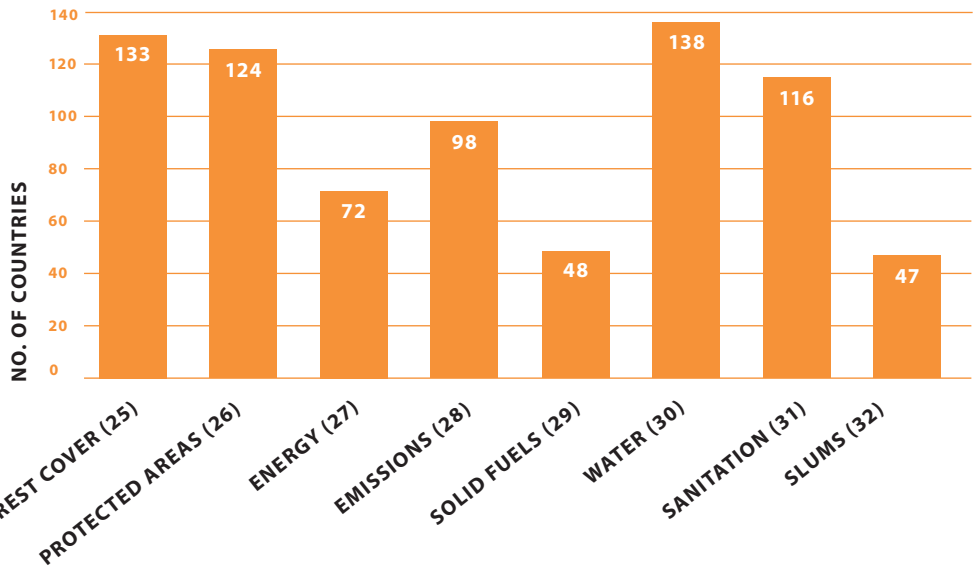
monitoring country-specific environment indicators; sources and quality of data used for reporting; and the extent of progress reported on environmental sustainability.

3.1 REPORTING ON GLOBAL MDG 7 INDICATORS

All 158 countries report on environmental sustainability and are using the global MDG 7 framework indicators, albeit unsystematically. Well over half the countries use the indicators on forests, protected areas for biodiversity, CO_2/ODS emissions, and access to water and sanitation. However, only 48 countries use the solid fuels indicator and only 47 countries provide data on slums.

Albania, Bangladesh, Brazil, Egypt, Fiji, Peru, Serbia and Thailand are the only countries to report on all eight indicators. Some countries (e.g., Dominican Republic, El Salvador, Solomon Islands) report on all indicators for Targets 9 and 10, but do not report on Target 11. Belize, Chile, Gambia, Guatemala, Jamaica, Jordan, Maldives, Morocco, Panama, Suriname and Uruguay, among others, report on all indicators except for Indicator 29. The extent to which countries, of the 158 reviewed, report on the global indicators is presented in Figure 3.

FIGURE 3 Number of countries reporting on MDG7 indicators



A majority of countries (133) provide data on the proportion of land area covered by forest. Some countries also report on arresting deforestation and focusing on forest rehabilitation and reafforestation. Area protected to maintain biological diversity is reported by 124 countries. Related to biodiversity protection, countries also report on coastal protection, mangrove swamps and fishery sanctuaries. Indicators to monitor carbon dioxide and ODS emissions are reported by 98 countries; the number of countries monitoring and reporting on emissions of greenhouse gases and sources of air pollutants has been increasing since reporting began in 2003. The energy intensity indicator is used by only 72 countries; however, in recent reporting, more countries are including data on access to electricity and use of renewable energy sources. Only 48 countries report on the proportion of population using solid fuels, raising the question of why so few countries are reporting on this indicator and whether it is well understood.

Access to improved water—both quantity and quality—is reported by 138 countries. In some cases, countries are refining monitoring of water availability and quality. For example, Saudi Arabia, which already supplies over 90 percent of its population with a secure water source, is measuring per capita water consumption. Similarly, Armenia is monitoring available renewable water resources, and Ukraine adapted the global indicator to monitor only the drinking water used that meets national standards. In general, countries regard water as an important element in health, labour force and therefore productivity. Access to improved sanitation is reported by 116 countries. This indicator is usually addressed together with access to water, although for some countries, developing indicators for both improved water and sanitation may well be beyond their current capacity.

Access to secure tenure (Indicator 32) is used by the least number of countries. However, while only 47 countries measure secure tenure, many countries use other indicators related to monitoring slum conditions. Ownership of homes and land, for example, are measured by the Democratic Republic of the Congo, Mauritius and Cambodia, while Albania monitors average living space and Peru reports on the rate of investment in the housing sector.

3.2 INDICATORS BEYOND THE GLOBAL MDG 7 FRAMEWORK

In part from UNDP support to both strengthen national monitoring systems and enhance the selection of relevant environmental sustainability indicators, the use of environment indicators beyond those included in the MDG 7 framework has been increasing. A wider array of environmental indicators is being introduced, from soil degradation and the export of natural resources to renewable sources of energy and spending on environment. Countries are also measuring cross-cutting indicators such as gender (i.e. the responsibility of women to collect fuelwood) and disease (i.e. deaths related to water and air pollution). A majority (112 countries of the 158) are using indicators beyond the MDG framework compared with 67 of the 100 countries reviewed just six months earlier. Countries select additional indicators either for tracking the global MDG 7 targets or for measuring progress against their country-specific targets.

A number of countries include agricultural practices and issues especially as they relate to arable land cover. Desertification is an important issue for sustainable livelihoods and has been monitored, for example by Chad and Tanzania. Bosnia and Herzegovina, in response to their need for clearing land mines, is monitoring the percentage of minefields cleared to measure progress on their 2015 target.

In addition to measuring access to water and sanitation, countries are also monitoring solid waste and wastewater management issues. Wastewater treatment is monitored by Bahrain who seeks to increase the use of recycled wastewater. Bahrain also reports on annual amounts of municipal and industrial waste, while Kazakhstan and the Philippines are monitoring the tonnage of uncollected solid waste. Some countries are linking waste issues to health and safety, where Tajikistan is monitoring the storing and reuse of radioactive waste and Sri Lanka monitors infant mortality and education rates in slums as a measure of progress in reducing disease related to an unhealthy environment.

Countries are also monitoring other issues to track environmental sustainability, including sustainable development-based education programmes (Chile), transportation fuel use (Pakistan and Fiji) and community-based fisheries (Cambodia)—all indicators which correspond to specific national targets. Kenya has aligned several MDG 7 country-specific targets and indicators to its national development plans, specifically related to energy. (See Box 3.)

Box 3 Kenya: country-specific indicators and targets

Kenya prepared MDGRs in 2003 and 2005, and the strategy behind target setting for MDG 7 is linked to the Government's Economic Recovery Strategy. Work on the MDGs has focused on conducting an analysis of national requirements as an initial step in formulating a strategy through which the goals could be achieved. The Government has passed the Environmental Management and Coordination Act (1999) and has established the National Environmental Management Authority as demonstration of its commitment to conservation of the environment. The majority (80 percent) of the population inhabit about 20 percent of fertile land given over to agriculture while the remaining 20 percent live in semi-arid and arid land, which make up 80 percent of total land area.

High levels of poverty that are implicated in health and mortality events are the greatest challenge to Kenya. Since wood fuel is the main source of energy, deforestation is a major challenge. Kenya measures the proportion of energy obtained from the use of biomass as well as the amount of petroleum imported into the country. Kenya proposes to protect at least 3.5 percent of forested area by 2008. The challenge is to create protected areas and to reduce the use of wood fuel by rural populations and to introduce them to alternative sources of renewable energy such as solar energy, which is abundant, all while attempting to reduce poverty levels. As such, the country proposes to set aside 25,000 ha of forested area for biodiversity preservation, to install solar power in 16 secondary schools, and to increase electric connections to rural customers to 150,000 per year. In response to increased energy consumption per capita, Kenya plans to increase energy efficiency from earth kilns from the current 15 percent to 20 percent through investment in educational awareness programmes and intensive training of charcoal makers to mobile artisans. The country also plans to reduce petroleum imports and to tap energy from biomass.

Associated with poverty reduction is the availability of good quality water and proper sanitation facilities. The Government has developed an autonomous institutional framework that will oversee management of scarce water resources. Kenya has set targets to increase access of urban populations to a safe supply of water from 89 percent to 96 percent and of rural populations from 49 percent to 66 percent. Targets for improved sanitation involve improving, by 2015, sanitation facilities for urban populations to 96 percent and for rural populations to 89 percent, recognizing that these are below the global targets. The country also proposes to reduce the number of people living in slums; the Government has approved a Housing Bill and has established a Trust Fund to improve the lives of slum dwellers. Kenya proposes to provide 300,000 housing units per year in rural areas.

Source: Based on data in Kenya's 2003 and 2005 MDGRs and ROK (2003)

3.3 DATA USED FOR REPORTING ON MDG 7

Countries use a variety of databases and data banks in establishing baselines and reference points that are then used to tailor targets and develop indicators. It is to be noted that, in general, data sets are somewhat incomplete and at best only sometimes reliable. However, it should also be recognized that national and global databanks for the most part are of tremendous value to measuring progress towards achievement of the MDGs and every effort should be made to improve both national and global databases. In setting environmental sustainability targets and indicators, countries have used mainly national data sources and databases. Supporting the MDG monitoring process with national monitoring systems is strongly encouraged, as it is an approach that underpins progress towards the MDGs. Unfortunately, the monitoring systems used to track progress on environmental sustainability appear to be too often parallel to national statistical systems.

With respect to global data sets, the United Nations is the source of data for many countries. The UN agencies that are custodians of global databases are UN Habitat, the United Nations Environment Programme (UNEP), the United Nations Children's Fund (UNICEF), the United Nations Framework Convention on Climate Change (UNFCCC), UNDP, Food and Agriculture Organization (FAO) and UNESCO. The United Nations Statistics Division (UNSD) compiles data collected by all of these specialized agencies, as does the World Bank. World Bank data are used frequently, although there are significant gaps in the available data for developing countries. Other international and non-governmental organizations such as the Asian Development Bank, the International Monetary Fund and the World Resources Institute are also rich sources of data.

National data resources include relevant line ministries, civil society organizations, community-based organizations and national documents (e.g., PRSPs and NHDRs). Given that countries have multiple data collecting sources, there may be significant overlap in the data that is collected and that there may be little or no collaboration in the design of mechanisms for data collection.

One-third of countries specify the original sources of data collection when reporting on indicators, and environmental sustainability information is, to some extent, collected through mainstream surveys. Algeria, for example, uses its Household Consumption Survey to report on access to water and sanitation[8]. Many countries use data from their Multiple Indicator Cluster Surveys (MICS)[9] and population censuses[10] for reporting on the MDG 7 indicators. Botswana is an example of a country that assesses the loss of environmental resources from data in its Population Census. Comoros uses both MICS and Population Census data for reporting on access to safe water. Bangladesh, Bhutan, Honduras, Yemen, Mauritania, Togo, Egypt and Iran obtain data from national health surveys such as the Demographic Survey on Maternal and Child Health.

3.4 MDG 7 REPORTING PROCESSES

Differences among countries in reporting on environmental sustainability have much to do with the procedures and processes each country follows in preparing its MDG report. Preparing a succinct and inclusive report depends, in part, on what indicators are adopted; whether to align existing national development targets with the MDGs; and the extent of stakeholder and public involvement. UNDP reviewed MDG reports for examples and good practices of reporting procedures on all of the MDG indicators and found that countries that report more extensively on environmental sustainability and/or tailor multiple country-specific targets and indicators for MDG 7 follow similar reporting guidelines. (See Box 4.) Specific MDG reporting processes, noted below from countries with successful MDG 7 reporting, are observed in cases of Kenya, Cambodia, Albania, Bangladesh, Serbia, Thailand and Viet Nam:

- increased community level involvement, consultation and consensus-building—for reporting preparations, data used in reporting, and agreeing on targets and indicators to use;
- sector-specific and district-level reporting and guidance;
- MDG awareness-raising campaigns;
- MDG trends and needs assessments and planning processes;
- multiple and collaborative workshops with stakeholders and at all levels;
- separate working groups for each goal and targets;
- preparation of MDG report in coordination with national development plans and agendas/MDGs linked to national development strategies; and
- assurance of development assistance/resource mobilization.

8. Countries, such as Cameroon, Myanmar, Nepal, Sri Lanka, Azerbaijan, Tajikistan and El Salvador also use results of household surveys for reporting.
9. Countries that use MICS for reporting include Angola, Central African Republic, Gambia, Kenya, Sudan, Togo, Afghanistan, East Timor, Iran, Myanmar, Tajikistan and Suriname.
10. Countries using population censuses for reporting include Niger, Zambia, Lebanon, the Pacific Islands, Viet Nam, Belarus, Serbia, Argentina, Bolivia and Paraguay.

Box 4 MDG monitoring and reporting: a review of good practices

Millennium Development Goal Reports 'set a baseline, document successes and focus attention on areas in need of increased effort. Used as a tool for advocacy and building alliances among development actors, the MDGRs help transform development from a top-down exercise into a participatory process. Regular monitoring and reporting challenge national and international partners to demonstrate that their initiatives produce concrete results, enhancing transparency and accountability' (from Millennium Declaration). UNDP has identified the following lessons from good practices in producing MDGRs:

- The MDGR should be accessible to a non-specialist audience, as it is intended to be used to create awareness and to influence the policy debate.
- Localization and contextualization of the global goals and targets at the country level is vital.
- Integration of the MDGs into national development strategies is a good indicator of a country's ownership of the MDG agenda.
- Participation of a broad range of stakeholders in the process of preparing and disseminating the MDGR is crucial.
- Disaggregated data for the indicators helps to identify social and geographical disparities.
- The data used for MDG reporting should be of the highest quality.
- The MDGR is a tool for advocacy and awareness and therefore should be kept brief, simple and clear.

Source: UNDP 2005a.

4 ARE COUNTRIES MAKING PROGRESS OR REGRESSING ON MDG 7?

FINDINGS: Few countries provide sufficient data to determine trends in environmental sustainability. Where data are adequate to indicate whether a country is making progress or regressing, reporting measurable progress for one indicator does not imply sufficient data is available for other indicators. However, countries that report on the majority of global MDG 7 indicators (such as Egypt, Fiji, and Thailand), also provide data on progress and regression. Forest cover is the only indicator for which a large proportion of countries report regression. Change in access to water sources is reported by the most number of countries, with 83 of 97 countries (86 percent) having supplied safe drinking water to growing shares of the population; some countries have already met the 2015 global target on drinking water, and others will meet it before 2015.

Reporting on progress made in achieving the targets set out under MDG 7 appears to be sparse and may be subject to national constraints and priorities. Data may well exist but may not be utilized due to lack of awareness or accessibility. Lack of coordination mechanisms between data collectors and users is another bottleneck.

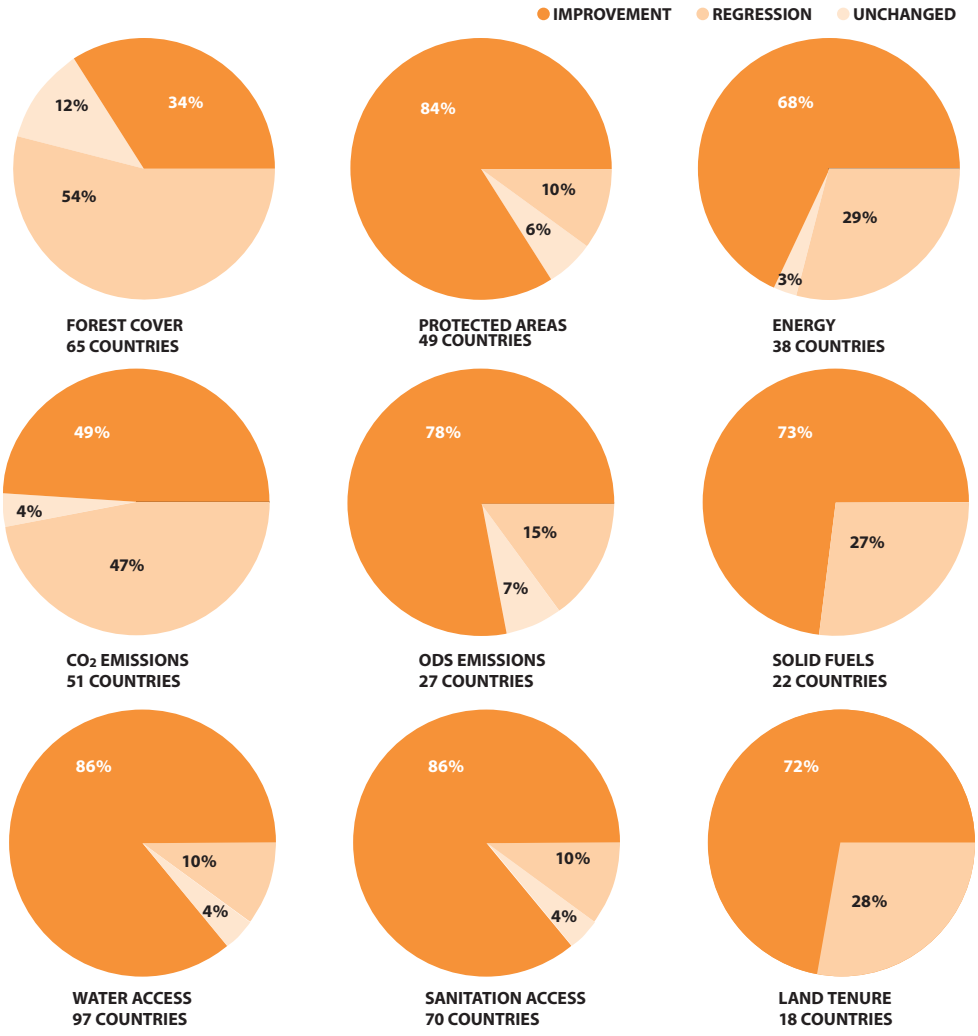
The results show that data generally exists for indicators on access to water supply, improved sanitation and forest cover with 97, 70 and 65 countries having at least two data sets respectively. However, the paucity of data for all the other indicators is notable. Lack of baseline data specially makes it difficult to monitor progress and, therefore, the real situation in terms of yearly trends with respect to environmental sustainability is not reflected in the MDGRs.

Even with limited data, progress on target achievement on some indicators is worth noting. Figure 4 shows the percentages of countries that have made progress, have negative trends and had no change in achieving target as well as the data availability situation for each indicator.

The results show that of the 65 countries reporting change in forest cover, only 34 percent indicate progress while 54 percent show regression in terms of loss of forest cover, whereas the situation in remaining countries is unchanged. Conversely, of the 49 countries that report on change in protected areas, progress has been made in 84 percent countries and only 10 percent indicate that less land area has been devoted to protected areas. Similarly, there has been measurable progress in the number of countries reporting improvement in water and sanitation facilities.

Analysis shows that of the 22 countries, there is less reliance on fossil fuels over the years with 73 percent recording improvement and there is regression in case of 27 percent of countries. Similarly, there are significant improvements in progress on indicators for provision of energy services and ODS emissions. Progress on CO_2 emissions is however, not very encouraging. The results show that in 47 percent of countries, the situation is getting worse and only 49 percent countries have shown improvement over the years.

FIGURE 4 Trends in reporting MDG7 indicators: percentage of countries showing progress and regression



The general lack of adequate baseline data and missing future scenarios and projections make it difficult to determine whether countries will make significant progress on environment sustainability (MDG 7) by 2015. Measuring progress in achievement of MDG 7 targets is stymied by inconsistent monitoring, a lack of reliable and sufficient data as well as a lack of indicators for many environmental resources.

5 CROSS-CUTTING LINKAGES: MDG 7 AND OTHER GOALS

FINDINGS: Environmental issues are not highly integrated in MDGRs outside of MDG 7; when environmental issues are referenced in other goals, the causal link between poverty and environment is not well articulated or elaborated nor are response measures developed. Integration of environmental considerations in MDGRs other than MDG 7 shows that linkages are made mainly to poverty concerns (MDG 1), where the focus is on unsustainable use of natural resources, and to health issues (MDG 6), especially with regard to contamination of water by waste and air pollutants causing risks to human health.

The MDGs comprise a set of targets and indicators that complement and reinforce one another. As such, although separate national entities sometimes have responsibility for one or another MDG, it is inevitable that, as countries develop programmes to meet MDG 7, cross-cutting themes would become apparent.

Millennium Development Goal Reports were reviewed to assess to what extent environmental issues have been taken into consideration in MDGs other than MDG 7; a subsample of 70 MDGRs were the object of further detailed analysis. (See Annex B for the list of 70 countries.) The review involved looking at each section of a country's report other than MDG 7 and noting any linkages between environment and other areas of development.

The findings of that review are discussed in this chapter. Particularly noted are how well countries integrate environmental concerns, what specific environmental issues are referred to, and whether environmental considerations are reported as opportunities or constraints to development.

5.1 ENVIRONMENTAL SUSTAINABILITY IN OTHER MDGS

Environmental resources and conditions have a significant impact on many aspects of poverty and development, and achieving environmental sustainability is fundamental to achieving all of the MDGs. Integrating environment as a cross-cutting issue in MDGRs is a useful indication of how well the linkages between environment and achieving poverty reduction and sustainable livelihoods are recognized and acted upon. Box 5 features some potential links between various MDGs and environmental concerns.

Box 5 Key links between the environment and the MDGs

MDG 1: Eradicate poverty and hunger. Poor people often depend on natural resources and ecosystems for income and livelihoods (food, shelter, etc.). The economy of the poorest countries often relies on natural resources exports, such as agricultural commodities and raw materials, and ecotourism.

MDG 2: Universal primary education. Time spent collecting water and fuelwood by children—especially girls—can reduce the time at school or prevent school attendance.

MDG 3: Gender equality. Time spent collecting water and fuelwood by women can reduce the time for schooling, for undertaking income-generating activities, and for participating in the community's decision-making activities. Unequal access to land and other natural resources limits possibilities for decision-making and empowerment.

MDG 4: Reduce child mortality. Children are more vulnerable to environment-related health problems because their immune systems are not fully developed and their metabolisms are different from those of adults. Environment-related diseases (diarrhoea, acute respiratory infection, leukaemia, childhood cancer, etc.) are primary causes of child mortality.

MDG 5: Improve maternal health. Indoor air pollution and carrying heavy loads of water and fuelwood negatively affect women's health, can make women less fit for childbirth and put them at greater risk of complications during pregnancy.

MDG 6: Combat disease. Most diseases in developing countries are environmental in origin, as specific environmental conditions may contribute to the growth and the spread of illnesses and limit access to treatment facilities and supplies. For example, a range of environmental factors affect malaria, as stagnated water and increasing temperatures associated with climate change create favourable conditions for disease-carrying mosquitoes.

Source: DFID et al. (2002) and World Bank (2002).

The MDGRs, within and beyond the core 70 reports reviewed, make a number of linkages between environment and other development priorities.

- **MDG 1: Eradicate poverty and hunger.** Poverty and hunger eradication is a cross-cutting theme that ran through the reports. Countries report that the economic crises they are experiencing and that results in poverty, coupled with lack of education and lack of awareness of sustainable methods of exploitation, are causes of unsustainable natural resource exploitation. In exploiting natural resources, poor people negatively impact the environment, sometimes causing irreversible harm. For example, they cut down and burn forest trees (Botswana) to clear land for agriculture; overfish the stocks (Cambodia, Cape Verde, Mauritania and Netherlands); hunt wildlife unsustainably; contaminate water sources with waste (Tajikistan); erect housing structures that are unable to withstand disasters and that in themselves become a disaster; and spoil the aesthetics of the environment that may be useful for ecotourism. However, the poor are also protectors of the environment and they are repositories of valuable indigenous knowledge of which environmental experts may be unaware, such as reported by Swaziland. This knowledge may indeed be useful in making linkages between poverty and the environment and in promoting a holistic approach to monitoring achievement of MDG 7.

- **MDG 2: Universal primary education.** The education goal is linked to MDG 7 insofar as it relates to providing qualified experts, particularly technology experts and statisticians, to develop appropriate policies and action plans for natural resource conservation (Argentina, Bolivia, Bhutan, Botswana,

Jordan and Niger). Education and training are viewed as important factors in achieving MDG 7 because it is assumed that, if people were knowledgeable about environmental conservation, they would seek to promote it. As such, the need for building national capacity starting with education at the primary level is perceived to be important to ensuring environmental sustainability. MDG 2 is also linked to building public awareness of the need to use natural resources sustainably.

- **MDG 3: Gender equality.** This goal is linked with empowerment of women to have equal rights and opportunities as men; only weak linkages are made between this goal and MDG 7. The Norway MDGR makes a link between this goal and MDG 7 in viewing women's involvement as a priority area. Mozambique reports on the challenge of empowering women to facilitate their participation in the decision-making process with respect to improving water and sanitation provision. Uganda seeks to address the number of female-headed households.

- **MDG 4: Reduce child mortality.** Reducing child mortality, as a result of diseases contracted because of living in poor environmental conditions, is what links MDG 7 and MDG 4. More specifically, several MDGRs (China, Myanmar, Sri Lanka and Tunisia) call attention to the role that living in slums (Target 11 and Indicator 32) plays in increasing the risk of contracting water- and air-borne disease-causing organisms that could increase mortality, especially among children. Chemical pollutants, particulate matter, CO_2 and ozone-depleting CFCs emissions are also linked to diseases and mortality, but these more indirect and long-term links are not made.

- **MDG 5: Improve maternal health.** The linkages between maternal health and MDG 7 are few, although connections have been made between access to water and sanitation services and maternal mortality (Uganda, Madagascar) and health (Ghana). Mongolia attributes high maternal mortality rate to environmental conditions and climate.

- **MDG 6: Combat disease.** The strongest linkages are reported between MDG 6 and MDG 7. Disease and health concerns are linked to the existence of land mines (Bosnia and Herzegovina, Jordan), the opium trade (Lao PDR), and war (Bosnia and Herzegovina, Sudan). Other concerns expressed by Switzerland connect the residual effect of chemical pollutants and disease, and Azerbaijan directly reports on the linkage between air pollution and health hazards. Still other countries cited the unsafe disposal of waste, including biohazardous waste (Sao Tome and Principe, Sri Lanka, Zimbabwe). Good water quality and sanitation facilities for waste disposal are also linked to health and disease—a concern cited by Albania, China, East Timor, Georgia, Kenya, FYR Macedonia, Myanmar, Nepal, Pakistan, Swaziland, Sri Lanka, Sudan, Tajikistan, Tunisia and Zimbabwe. In addition, the Sri Lanka and Zimbabwe MDGRs note the existence of slum areas and their potential for being breeding grounds for disease-causing organisms that may negatively affect human health. The European Commission report also makes a general link between the increased incidences of disease and environmental factors. Improving the state of the environment is understood as enhancing the health of the total population by reducing the incidence of disease-causing organisms and situations.

- **MDG 8: Building partnerships.** The MDGRs on MDG 7 in general report the need for building partnerships at national, regional and international levels to ensure environmental sustainability. More specifically, the report from Kenya indicates the need to improve coordination of donor aid; and Algeria, Angola, Cambodia, Madagascar and Nigeria focus on the formulation of policy and action plans for natural resource management and on providing a clear definition of the roles and responsibilities of the various actors in the environmental movement. Many countries, especially the developing countries, are recipients of donor aid but all too often the development agenda is dictated by the donors and may not necessarily reflect the critical challenges facing the countries. Also, different donors may have different and sometimes incoherent approaches to national development, which is overall detrimental to development effectiveness. While this problem is recognized and is being addressed through the Paris Declaration on Aid Effectiveness (OECD 2005), MDGRs note that development assistance practice remains in dire need of improvement.

5.2 HAVE COUNTRIES INCORPORATED POVERTY-ENVIRONMENT LINKAGES INTO THEIR MDGRs?

Actual linkages reported in the 70 country MDGRs between MDG 7 and other MDGs are presented below. References to environment are identified according to specific dimensions of poverty, which describe the area of development for which each environmental consideration has an impact. The analysis considered five core dimensions of poverty, along with a more generalized relationship between poverty and environmental concerns. (See Box 6.) Fifty-eight (of 70) countries integrated at least one environmental consideration in their MDGR. A majority of countries linked environment to poverty and hunger eradication (MDG 1), followed by child mortality (MDG 4) and communicable diseases (MDG 6). Environmental issues were least often linked to maternal health (MDG 5) and education (MDG 2). (See Table 6.)

The analysis shows that the dimensions of poverty that are more often linked to environmental considerations are health and food security. The dimensions of poverty that receive less attention are access to resources, education and inequality. In cases where countries refer to cross-linkages between environment and other development objectives, environmental issues are mentioned without any or with only a poor degree of elaboration. Countries superficially mentioned the environmental linkage without describing the significance of, or discussing how to tackle, both development challenges.

Box 6 Key dimensions of poverty

ECONOMIC CAPABILITIES: the ability to earn an income, to consume, and to have access to productive resources (financial or physical)

- **Income generation:** the ability to earn and consume
- **Access to resources:** the ability to have access to natural resources (i.e. land, biodiversity, forestry, fishery, etc.)

HUMAN CAPABILITIES: the ability to be healthy and educated and to have access to food and other means of livelihoods

- **Health:** the ability to be healthy
- **Education:** the ability to be educated
- **Food-security:** the ability to access enough food
- **Shelter:** the ability to have access to housing/shelter

SOCIO-CULTURAL CAPABILITIES: the ability to participate as a social member of a community or society (social status, dignity and other cultural conditions for belonging to a society)

- **Inequality:** the inability to participate because of economic, cultural, social, or ethnic differences
- **Gender:** the inability to participate because of gender differences

PROTECTIVE CAPABILITIES: the ability to cope with external shocks

- **Vulnerability:** the degree of exposure to and the ability to cope with natural hazards

POLITICAL CAPABILITIES: the ability to participate in the political life of a community, including human rights

An additional category has been added in our analysis: **OVERALL POVERTY**. This dimension has been used whenever an environmental consideration referred to the concept of poverty as a whole—and not to one of its specific dimensions—or when referring to two or more dimensions of poverty.

Source: Adapted from OECD 2001a.

Table 6 Links made in MDGRs between MDG 7, other MDGs and key dimensions of poverty (number of countries)

DIMENSIONS OF POVERTY	INTRO/ CONCLUSION	MDG 1	MDG 2	MDG 3	MDG 4	MDG 5	MDG 6	MDG 8
Overall poverty	8	22						1
Income generation	12	7						
Access to resources	2	1						
Health	4	2			28	4	24	
Education	1		7					
Food security/shelter	1	27			1			
Inequality	3	3						
Gender		1		11				
Vulnerability	4	4						

Among the countries that linked environmental sustainability to poverty reduction (MDG 1), countries linked environment to overall poverty and food security for poverty reduction. Climate (natural disasters), land (degraded agricultural land area), natural resources (deforestation), natural resource infrastructure (water supply systems) conditions and management are mentioned as direct factors that affect poverty and hunger. Climate conditions (such as erratic rainfall and droughts), access to water, and soil quality affect agricultural production and sustainable food supplies. Countries also link environmental issues to child mortality (MDG 4) and communicable diseases (MDG 6). Lack of reliable and accessible safe drinking water and sanitation facilities and environmental pollution are directly linked to child mortality in the form of diarrhoeal, parasitic and skin diseases. Climate and environmental conditions (i.e., poor sanitation services) are linked to infectious diseases such as malaria and cholera epidemics, tuberculosis and other communicable diseases; and air pollution contributes to respiratory diseases.

Data analysis by region reveals that references to health are slightly higher in Latin America, Eastern Europe and Central Asia (Honduras, Bolivia, Brazil, Bosnia and Herzegovina, Mongolia and Tajikistan), while the health-environment linkage is slightly less prominent in the Arab States region. Latin America's MDGRs report more than other regions on the impact of environment on food security. For instance, Honduras links three different aspects of environmental change (lack of water, climatic alterations and soil erosion) to the issue of food insecurity. References to food security are much lower in the Arab States region, where only Yemen makes the link between environmental issues and food security. Reporting on the impact of environment on income generation is slightly higher in MDGRs from Europe and the Commonwealth of Independent States and is particularly low in MDGRs from Latin America and Southern and Eastern Asia. Environmental issues are particularly relevant in terms of vulnerability (i.e., to natural hazards, climate change) in Latin America. For example, Guyana's country report describes its vulnerability to ecosystems degradation, natural hazards and climate change, which threaten human and natural health. The environment-vulnerability link is reported less in other regions (Saharan and sub-Saharan Africa; Arab States; Asia and the Pacific; Europe and the CIS). Finally, the link between environment and gender receives considerable attention in the Saharan and sub-Saharan Africa region, particularly in Niger.

5.3 WHAT ENVIRONMENTAL CONSIDERATIONS ARE INTEGRATED IN THE MDGS?

Specific environmental issues referred to in the MDGs other than MDG 7 include:

- **Land degradation:** issues relating to soil and sub-soil resources, such as erosion, desertification, waterlogging, salinization, nutrient depletion, overgrazing, etc., and above-ground resources, such as deforestation and the degradation of forests and woodlands, etc.;
- **Biodiversity:** issues relating to the degradation of ecosystems and natural habitats and the threat to or loss of biological species or genetic resources;
- **Natural resources management:** issues relating to the management of natural resources;
- **Natural resources entitlement:** issues relating to the accessibility, ownership, control and benefit sharing of natural resources;
- **Water and sanitation:** issues relating to the quality of water supply for human consumption, including collection, and affecting human health;
- **Water environment:** issues relating to aquatic habitats and ecosystems, including costal zone and the sea, freshwaters, underground waters, and wetlands;
- **Air issues:** issues relating to air quality, indoor and outdoor pollution, and ozone depletion;
- **Natural hazards:** issues relating to environmental hazards, such as droughts, floods, hurricanes, earthquakes, landslides, forest fires, etc.;
- **Climate and meteorology:** issues relating to weather patterns, including climate change or metrological variations such as the frequency of rainfalls;
- **Waste:** issues relating to waste collection, management and disposal; and
- **Energy:** issues relating to sustainable energy.

Water and sanitation are environmental priorities that most countries integrate in MDGRs, followed by climate change and natural hazards. Specific environmental issues in MDGRs are flagged under each dimension of poverty. (See Box 7.)

Box 7 Specific environmental issues flagged within each poverty dimension

Income generation	Desertification; lack/degradation/overexploitation of natural resources; natural disasters; access to/ownership of productive assets; land and soil quality
Access to resources	Overexploitation of fishery resources; water resource management; access to land
Health	Access to safe and good-quality drinking water; climate and environmental changes; presence of forests; environmental sanitation; environmental management; natural disasters; air pollution; waste management
Education	Water and fuelwood gathering; climate conditions and environmental factors; natural disasters; water quality; environmental management
Food security	Climate conditions and changes; natural disasters; environmental education; natural resources access; environmental degradation; environmental management; availability of/access to water resources; waterborne diseases; soil quality, erosion and desertification
Inequality	Access to safe drinking water; natural resources management; vulnerability to natural disasters
Gender	Access to/ownership of resources and production factors; water and fuelwood gathering; access to safe drinking water; environmental protection
Vulnerability	Climate change and climatic factors; environmental degradation; access to natural resources; natural resources management; natural hazards

There is considerable variation by region in the extent to which countries integrate environmental considerations in the MDGRs apart from specific reporting on MDG 7. Countries in Europe and the CIS, and in Asia and the Pacific, report on impacts of natural hazards more than countries in other regions, suggesting that vulnerability to natural disaster, climate change and disease epidemics are key factors in development priorities, as is food supplies, poverty reduction, health, equality and income generation. In these regions, Cambodia, the Philippines and Bosnia and Herzegovina discuss the relevance of natural hazards to poverty and development aspects. The number of countries that refer to natural hazards is surprisingly low in Latin America, even though Central America and the Caribbean are particularly vulnerable to natural disasters. Only Nicaragua, Guatemala and Honduras address the effects of droughts, earthquakes, hurricanes and floods as a key indicator of extreme poverty, as well as the economic and social impacts of such disasters (e.g., on the price of coffee in Guatemala).

The issue of biodiversity is integrated more in the MDGRs of Saharan and sub-Saharan Africa, where eleven countries refer to the implications of biodiversity loss on livelihoods. Biodiversity is less addressed in the MDGRs of Central Asia and in the Arab States region, where only Tajikistan and Yemen mention the exploitation of resources and biodiversity as challenges to poverty alleviation.

The issue of natural resource entitlement is mentioned in South-East Asian MDGRs. Challenges to poverty reduction in Cambodia include a direct link to poverty and landlessness and the need for land laws and equitable land distribution, as well as for food security (land, forest and fish sectors) and gender equality. Bolivia and Viet Nam also mention the issue of land rights as being linked to income generation and gender equality. In the Arab States, only Syria refers to natural resource entitlement. However, the Arab States region may be sensitive to water environment issues, particularly to the issue of water resources availability (Egypt, Syria, Yemen). For example, in Yemen, scarcity of water resources is a challenge to raising the level of food security. The same issue is not touched on at all in South-East Asian MDGRs.

5.4 OPPORTUNITIES OR CONSTRAINTS?

Environmental resources may be viewed either as an opportunity or as a constraint to development. On the one hand, environmental resources can be considered as elements that contribute to poverty reduction. On the other hand, protection of those resources can be considered as a factor leading to poverty and an obstacle to poverty reduction. In almost two thirds of the MDGRs, environmental issues are seen as constraints to development. However, 42 of the 70 countries (60 percent) state positive impacts of improving environmental conditions to achieving other development priorities. Clear linkages of environmental factors encouraging positive development outcomes include:

- improving access to safe drinking water to reduce child mortality (Burundi, Namibia, Honduras, Bhutan, MDG 4);
- establishing an Early Warning System to forecast and address the consequence of adverse climatic conditions and improving water quality to reduce food insecurity and malnutrition (Rwanda, MDG 1) and disease (Rwanda, MDG 4);
- integrating the gender dimension into land laws as a tool to guarantee equal access to and control over agricultural inputs (Rwanda, MDG 3);
- increasing access to safe water as a tool to reduce maternal mortality (Uganda, MDG 5);
- improving water networks to reduce poverty and child mortality rates (Cameroon, MDGs 1 and 4; Cambodia, MDG 4);
- improving technology for improved air and water quality, protection from floods, and land and forest management for poverty reduction and extreme hunger (Bosnia and Herzegovina, MDG 1);
- improving coordination among sectoral interventions in drinking water supply, sanitation and hygiene to reduce child mortality (Gambia, MDG 4);
- improving access of the poorest to productive assets, including land, a tool for pro-poor economic growth (Namibia and Kyrgyzstan, MDG 1);
- legally secure land as a tool to empower the poor and to alleviate poverty (Thailand, MDG 1);
- land reform as a factor that contributes to an increase in farmers' income (Viet Nam, MDG 1);
- sustainable management of natural resources and the preservation of the environment as a means to increase the safety and protection of the poor (Bolivia, MDG 1); and
- provision of basic services, including access to safe water, as a means to contribute to the elimination of plagues, vectors and other transmittable diseases (Bolivia, MDG 6).

6 REGIONAL VARIATIONS IN MDG 7 MONITORING AND REPORTING

FINDINGS: In comparing MDG reporting by region, the issues addressed by at least 70 percent of reporting countries are the following: in the Latin America and Caribbean Region, the Asia and Pacific Region and among the Arab States, forest cover, protected areas and access to water and sanitation; in the Africa Region, access to water; and in Europe and the Commonwealth of Independent States, access to water, protected areas, forest cover and emissions. Access to water was reported on most frequently, except by the Latin America and Caribbean Region, where countries reported most frequently on forest cover. Land tenure is least reported on by all of the regions except for Africa and Europe/ Commonwealth of Independent States.

Comparisons of the MDG 7 tailoring and monitoring situation across the regions show that the number of countries that have tailored targets and indicators and reported on global indicators varies significantly. As presented in Figures 5 and 6, a good number of countries from Africa, Asia and the Pacific, and Europe and CIS have tailored Target 9 and Target 10, whereas the majority of target-setting on slums is being done by countries in Africa (Figure 7). Countries from the Arab States and Latin America regions, overall, have tailored the least number of targets. Access to water is monitored on the most by all regions, except for Latin America and the Caribbean, which reports most frequently on forest cover. Reporting on the global indicators is the weakest for solid fuels and land tenure by all regions except for Asia and the Pacific, where 62 percent of countries report on solid fuels.

This chapter discusses further both the extent to which the regions and the countries within them are tailoring their targets and indicators to specific country situation and the extent to which they report on the eight global indicators

FIGURE 5 **Number of countries that tailor Target 9, by region**

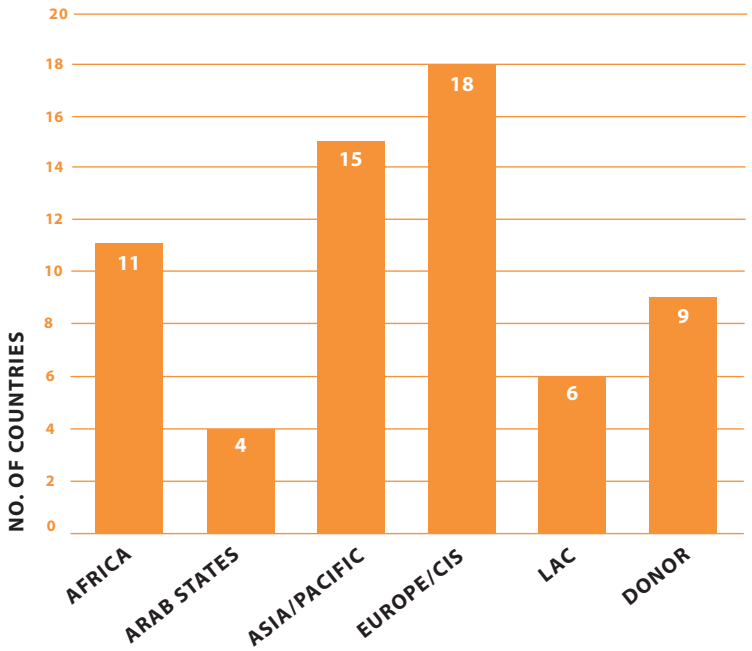


FIGURE 6 **Number of countries that tailor Target 10, by region**

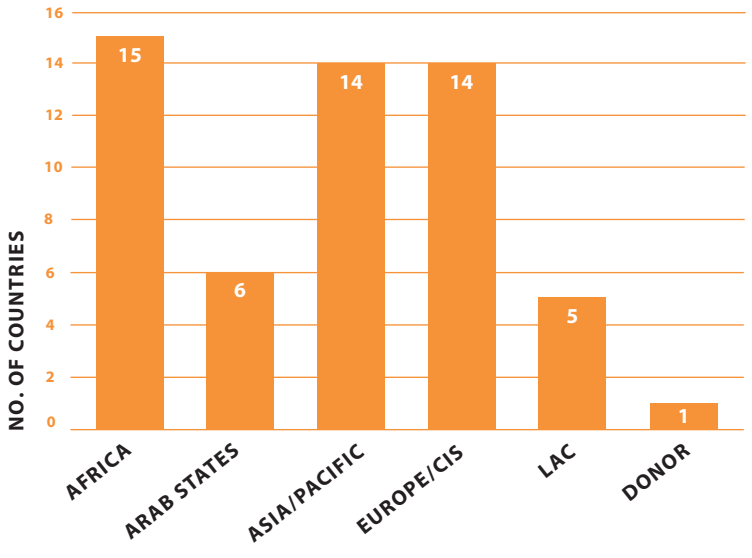
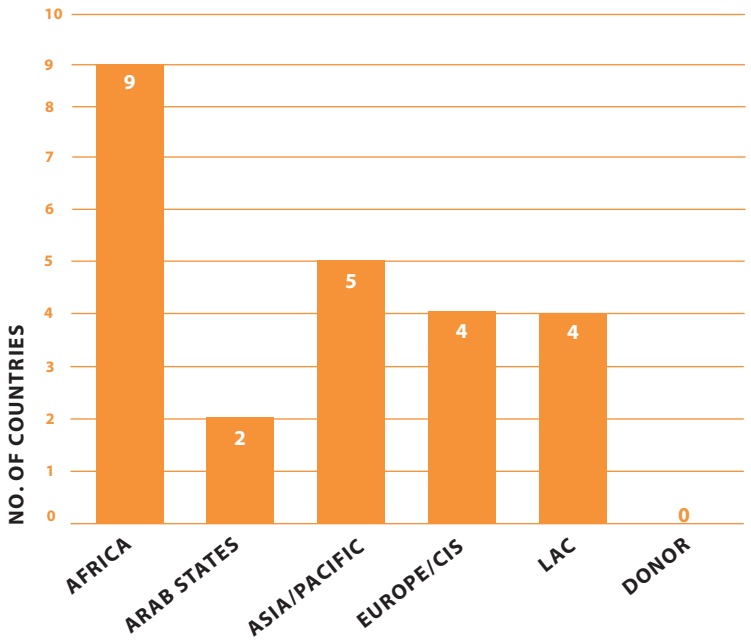


FIGURE 7 Number of countries that tailor Target 11, by region



6.1 AFRICA REGION

A total of 42 countries from the Africa Region report on MDG 7. With regard to tailoring Target 9, tailored targets include increasing forest cover (Gambia, Liberia, Senegal, Tanzania), integrating sustainable development principles into country programmes (Angola, Botswana), increasing access to commercial energy, increasing the reliability of and reducing energy costs (Angola), increasing the land area under protection (Gabon, Gambia, South Africa), improving earth kilns to increase energy efficiency (Kenya), increasing protected areas and access to electricity (Central African Republic), and reducing energy consumption per capita (especially from petroleum products) and increasing the amount from biomass (Kenya).

In Africa, 27 countries report on indicators to determine progress in the proportion of land covered by forest. Some of the more specific indicators include stemming the rate of deforestation (Burundi, Kenya), increasing soil fertility (Benin), reducing the acreage under desert cover (Chad, Swaziland), maintaining closed and open forests (Gambia), increasing the acreage under industrial tree plantations (Kenya), and reducing the proportional rate of deforestation to reforestation (Sudan). With respect to increasing the ratio of protected area to maintain biological diversity to surface area, 24 of the countries have reported on and developed indicators related to biodiversity outside of the MDG framework. These include sustainably maximizing fish catches (Cape Verde, Mauritania) and increasing the number of African wildlife species under protection (Cameroon, Namibia).

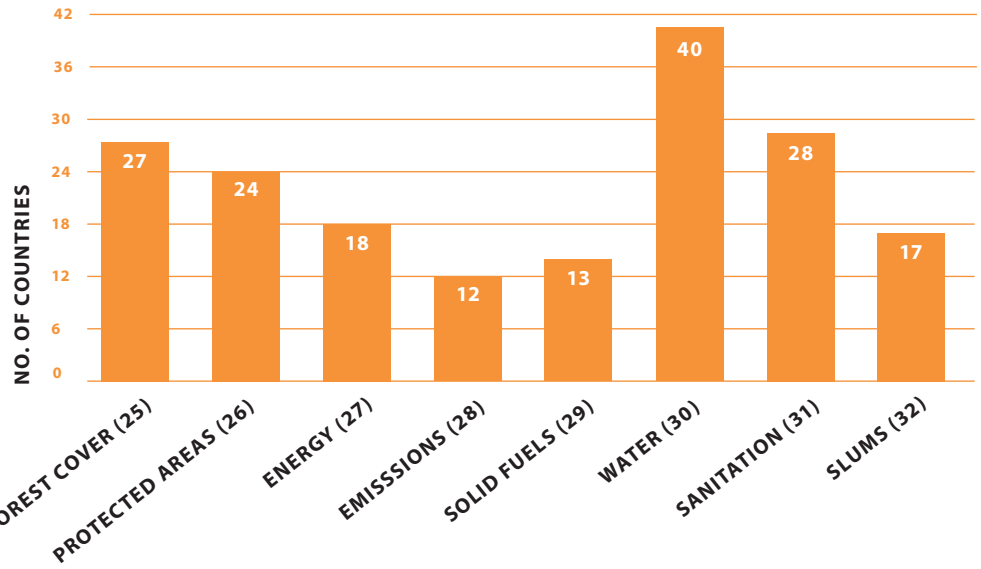
Indicators for monitoring energy use per capita have been reported on by 18 of the 42 countries. The indicators used include increasing energy production from biomass while reducing energy consumption (Kenya, Mauritius, Nigeria, Rwanda) and reducing imports of petroleum (Kenya). Controlling emissions of carbon dioxide is being monitored by 12 countries and essentially involves reducing carbon dioxide emissions from the transport sector (Gambia) and in general reducing Africa's contribution to global carbon dioxide emissions (Africa Regional Report 2002).

Indicators to monitor the proportion of the population using solid fuels have been reported by 13 African countries (including Botswana, Burundi, Cameroon, Côte d'Ivoire, Congo, Niger, Rwanda, Swaziland, Tanzania, Zambia, and the Regional Report); two countries specifically include indicators for increasing energy efficiency through increased amount of fuel from biomass (Kenya, Cameroon).

Fifteen countries have developed measurable and time-bound targets to increase the proportion of people without sustainable access to safe drinking water and basic sanitation. Examples of tailored targets include ensuring that the total population has access to safe drinking water and basic sanitation (Algeria, Kenya, Uganda, Zimbabwe), providing access to safe drinking water for 75 percent of the population (Benin, Cameroon, Guinea, Mauritius, Nigeria, Senegal), and improving the water service to rural and urban areas through improvements in tapping water sources (Burkina Faso, Namibia).

Indicators on water accessibility are reported by 40 countries in the region. Specific indicators include the development of wastewater treatment facilities (Botswana), piped water and water from boreholes to households (Botswana, Cameroon, Malawi, Mauritius), renewable sources of water (Guinea, South Africa), and urban growth rate. For sanitation, 28 African countries have reported progress. These generally focus on sanitation systems and access to sanitation (Gabon) by monitoring the percentage of the population having basic sanitation systems (Cape Verde, Gabon, Mauritius).

FIGURE 8 Africa Region: number of countries reporting on each MDG 7 indicator



The goal of achieving access to land tenure is tailored by nine African countries. Country-specific targets include achieving a significant improvement in housing conditions (Cameroon, Gabon, Guinea, Kenya, Zimbabwe), increasing electrical services in households (Congo), reducing by half the number of districts that are underdeveloped (Gabon), eliminating slums altogether (South Africa), improving the lives of slum dwellers (Benin), and increasing access to secure housing by 2015 (Liberia).

Seventeen countries in the region have reported on slum conditions; examples include the use of solid fuels for improvement in urban housing (Benin), increasing household access to electricity (Burkina Faso), increasing construction of houses with permanent materials and with basic facilities (Cameroon, Zimbabwe), increasing the proportion of the population with legal title to land (Gabon, Mauritius), increasing the subsidization of housing (Mali, South Africa), reducing the percentage of the population inhabiting unplanned development areas (Swaziland, Uganda), and addressing the number of female-headed households (Uganda).

6.2 ARAB STATES REGION

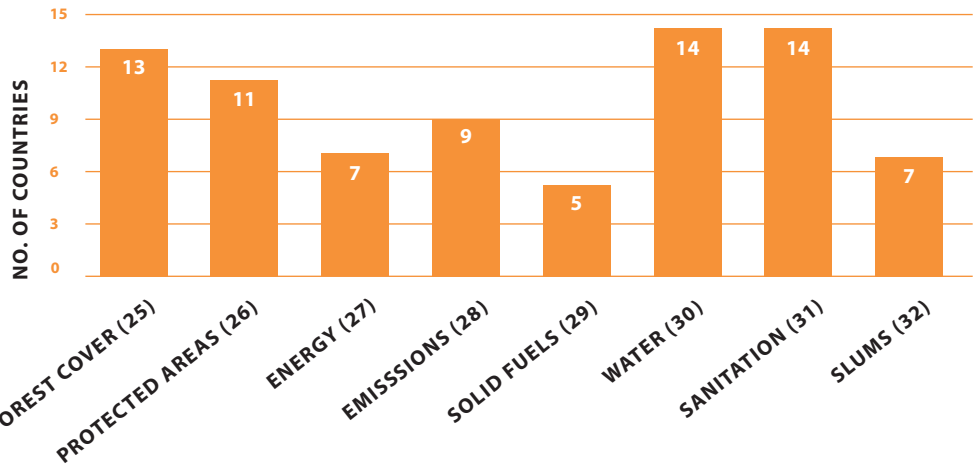
A total of 15 countries from the Arab States report on MDG 7. Of these, four (27 percent) have set country-specific targets for integrating the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. The tailored targets ranged from increasing the percentage of land that is protected (Egypt, Qatar) and implementing strategies to reverse the loss of environmental resources (Saudi Arabia) to increasing the proportion of land covered by forests (Tunisia).

A total of 13 countries report on indicators to determine increases in the proportion of land covered by forest. In addition to improving forest cover, some countries (Qatar, Saudi Arabia, the United Arab Emirates, Yemen) focus on increasing the proportion of arable land; Tunisia is focused on reducing the area of land affected by erosion. Eleven countries report on indicators for increasing the ratio of area protected to maintain biological diversity to surface area. Seven countries from the MDG 7 reporting Arab States report on indicators for monitoring energy use (kg oil equivalent) per $1. Lebanon is committed to increasing the use of renewable sources of energy, while Morocco has set a target of reducing the amount of imported electrical energy consumed. Morocco, Saudi Arabia and Tunisia are focused on reducing the consumption of petroleum products.

With respect to Indicator 28—reducing carbon dioxide emissions per capita and consumption of ozone-depleting CFCs—nine countries are committed to this. Other, tailored indicators include reducing carbon dioxide emissions by sector (Bahrain) and reducing emissions of toxic substances that impact on public health and reducing area covered by landmines (Jordan). Only five report on indicators for reducing the proportion of the population using solid fuels.

For Target 10—halving by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation—only six countries (40 percent) set country-specific targets. These ranged from fully utilizing recycled waste water daily by 2010 (Bahrain) and 100 percent of the population having access to improved water facilities (Egypt, Lebanon, Syria) to halving the proportion of people without access to safe drinking water (Djibouti).

FIGURE 9 Arab States Region: number of countries reporting on each MDG 7 indicator



However, reporting by indicator is done by significantly more countries. Increasing the proportion of people with sustainable access to an improved water source, in both urban and rural areas, is reported by 14 Arab States. Specific strategies include increasing the supply of piped water to urban and rural populations

(Egypt), improvements in public waterworks (Lebanon, Occupied Palestinian Territory), increasing the availability of water for agriculture (Occupied Palestinian Territory, Tunisia), and increasing the volume of water available from desalination plants (United Arab Emirates). With respect to increasing the proportion of people with access to improved sanitation, urban and rural, 14 countries measure progress. More specific strategies include increasing the extent of tertiary treatment of sewage (Bahrain), increasing the daily treatment of municipal waste (Bahrain, Lebanon, United Arab Emirates), and increasing waste treatment infrastructure (Lebanon). (See Box 8 for a discussion of how Egypt has aligned its MDG targets with other national development strategies.)

Only two countries (13 percent) report setting country-specific targets for achieving a significant improvement in the lives of at least 100 million slum dwellers (Target 11). These include reducing the cost of construction (Djibouti) and providing safe housing (Syria). Seven Arab States monitor issues of secure tenure and slum conditions. For example, a specific indicator by Kuwait seeks to measure access to secure tenure by housing type.

Box 8 Egypt: aligning targets in the MDGR and national development strategies

Access to sustainable water sources and basic sanitation, population growth pressures, and air and water pollution are primary concerns for Egypt and have been addressed in its MDGR, NEAP, and 2004 NHDR. The three reports indicate that access to water has increased overall, but contamination of water, poor sanitation, and solid waste still pose major health and environmental concerns. Solid waste management, air and water pollution, and land degradation are noted in the MDGR as the key priorities of Egypt's NEAP. In the MDGR, Egypt monitored all of the eight global environmental indicators and added emissions of pollutants by source and the cost of environmental degradation. Egypt also set two country-specific targets for increasing the area of natural protectorates and for ensuring full access to water and sanitation services. The Egypt NHDR goes beyond the MDGR, reporting on fish catches, cultivated area, renewable water resources, energy consumption, and food production. The NHDR also highlights access to sanitation and sustainable water sources and wastewater treatment as priority national development issues. It links these sanitation improvements to achieving each of the MDGs. Protecting environmental resources is also a priority for tourism; Egypt aligned its NEAP target to establish new protected areas to amount to forty protectorates by 2017 in the MDGR.

Source: Based on data in Egypt's MDGR, NEAP, UNDP and Institute of National Planning (2004), along with comments by Mohamed Bayoumi (UNDP Egypt).

6.3 ASIA AND THE PACIFIC REGION

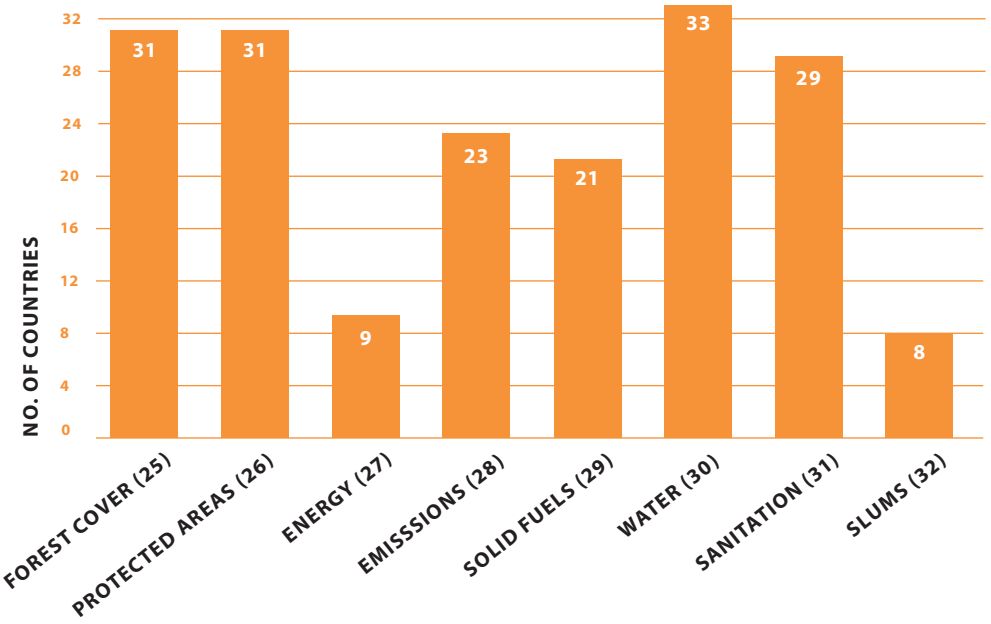
Thirty-four countries from the Asia and Pacific Region report on MDG 7. The tailoring of Target 9 involves setting time-bound targets for maintaining forest cover (Bhutan, Cambodia, East Timor, Myanmar, Pakistan), decreasing the discharge of major pollutants (China), maintaining a balance between use of environmental resources for economic growth with conservation of resources (East Timor), phasing out of ozone-depleting substances (Lao PDR, Myanmar), increase in land area for conservation of wildlife (Pakistan), increase in number of vehicles using natural gas (Pakistan), decreasing sulphur content in diesel (Pakistan), improving energy efficiency (Pakistan), increasing use of land for environmentally friendly technologies and implementing strategies for sustainable development (Mongolia, Papua New Guinea, Philippines, Viet Nam), introducing proper waste management practices (Sri Lanka), increasing the use of renewable energy (Thailand), and reducing air and water pollution (Viet Nam).

Of the 34 Asia and Pacific countries, 31 report on indicators to increase the proportion of land area covered by forest; more specific indicators include increasing the acreage of mangrove and planted forest (Bangladesh, Indonesia, Nepal, Papua New Guinea, Sri Lanka, Thailand), increasing the number of rangers in protected forest areas (Cambodia), and increasing investment in the environment (China, Viet Nam).

Indicators to increase the ratio of protected area to maintain biological diversity as a proportion of total land area are reported on by 31 countries from the Asia and Pacific Region. More specifically, these focus on the proportion of fishing lots released to local fishers as well as the number of community-based fisheries and the number of fish sanctuaries (Cambodia), the biodiversity in wetlands (Nepal), the acreage of protected wet zone forest (Sri Lanka), and the number of endangered species (Viet Nam).

With respect to Indicator 27, nine countries report on the use of fossil fuel sources of energy. Some countries such as Bangladesh, Cambodia, Indonesia, Pakistan, Papua New Guinea and Sri Lanka are reporting on the use of less polluting sources of energy such as natural gas and biomass. Thailand has developed renewable energy indicators. Indicators to measure reduction in carbon dioxide emissions and consumption of ozone-depleting CFCs have been reported on by 23 countries in the region. Indonesia indicates that it wants to reduce its greenhouse gas emissions. Malaysia, Thailand and Viet Nam are measuring the quality of water in rivers. With respect to the proportion of the population using solid fuels, 21 countries have indeed reported on indicators to measure this.

FIGURE 10 Asia and the Pacific Region: number of countries reporting on each MDG 7 indicator



The global MDG 7 target on water is supported by country-specific targets set by 14 countries (41 percent). The tailoring involves setting time-bound targets for decreasing the proportion of the population especially in rural areas without access to safe drinking water, increasing access of the population to basic sanitation services and ensuring that all wastewater is treated and there is proper disposal of solid waste.

With respect to access to water, 33 of the 34 Asia and Pacific countries report on this indicator. Bhutan intends to increase daily per capita water consumption while East Timor, Malaysia and Nepal are relating deaths from water-borne and air-borne infections to water quality. Pakistan and the Philippines are examining and measuring the percentage of water that is contaminated. Improving access to basic sanitation in urban and rural areas, the volume of solid waste that is generated (Pakistan, Philippines, Sri Lanka) and decreasing the volume of hazardous waste that is generated (Sri Lanka).

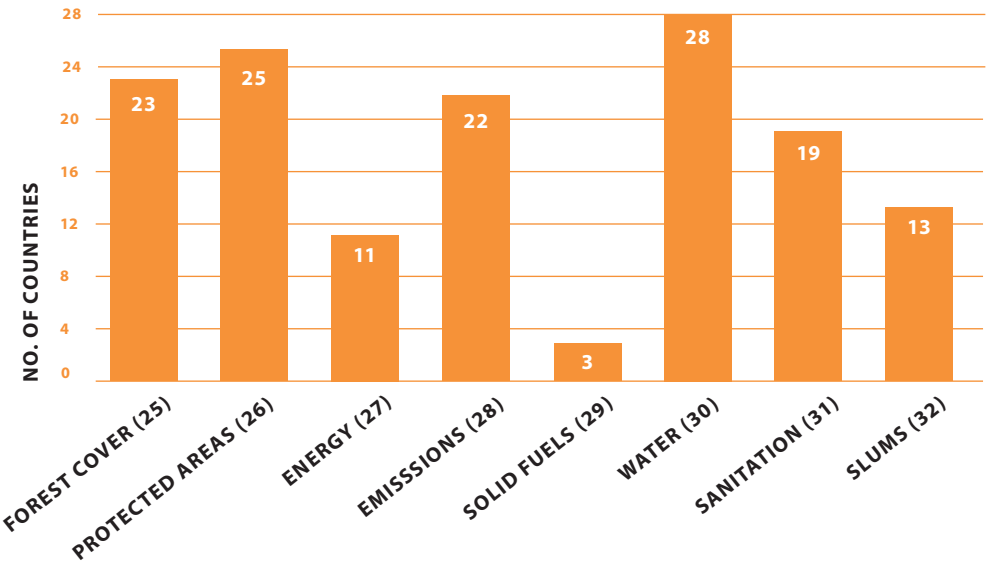
Target 11 is tailored on in a country-specific manner by five countries (15 percent) of the countries. These include the allocation of land titles (Cambodia, Pakistan, Papua New Guinea, Viet Nam), and improving the environment in order to reduce the incidence of diseases (Sri Lanka). Eight countries report on indicators to measure the proportion of households with access to secure tenure. These essentially focus on the rights of individuals to land titles (Bangladesh, Cambodia, Fiji, Indonesia, Myanmar, Pakistan, Philippines, Sri Lanka) and on the degree of infant mortality in illiteracy in slum areas (Sri Lanka).

6.4 EUROPE AND THE COMMONWEALTH OF INDEPENDENT STATES REGION

A total of 28 countries from Europe and the Commonwealth of Independent States (Europe/CIS) report on MDG 7. With respect to Target 9, 18 countries (64 percent) have set country-specific, time-bound targets; these tailored targets range from increasing by 25 percent the land areas and resources that are protected (Albania, Bulgaria, Kyrgyzstan, Lithuania, FYR Macedonia, Moldova, Romania, Ukraine) to increasing the use of renewable sources of energy (Bosnia and Herzegovina, FYR Macedonia, Moldova, Romania).

Of the 28 reporting countries, 23 countries report on the proportion of land area under forest; Albania is a good example, which, along with global indicators, also reports on determination of the extent of exploitation of forests, the annual incidence of forest fires and the degree of investment in reforestation and rehabilitation of forested areas. Kyrgyzstan and Tajikistan include determination of arable land that is subject to desertification and the quality of soils, while the latter also addresses the impacts of erosion on arable land as well as land being irrigated to improve agricultural production. Moldova is focused on restoring the surface of erosion-damaged land.

FIGURE 11 Europe and CIS Region: number of countries reporting on each MDG 7 indicator



Twenty-five countries in the Europe/CIS Region report on indicators to measure progress in protected areas to maintain biological diversity; most have strategies in line with the global indicator, with Ukraine including the total area of devoted to biospheric reserves as a ratio of the total land area. With respect to Indicator 27, 11 Europe/CIS countries measure energy use (kg oil equivalent) per $1 GDP. They report on the use of less-polluting fossil fuels such as natural gas (Azerbaijan and Turkey), state budget subsidies for fuel and the energy sector (Azerbaijan), the use of renewable sources of energy (Slovenia), and energy consumption (Latvia and Poland).

In terms of carbon dioxide emissions per capita and the consumption of ozone-depleting CFCs, 22 of Europe/CIS countries report on these indicators and link them to specific emission reduction targets and exposure levels. These range from reducing greenhouse gas emissions (Bulgaria, FYR Macedonia, Slovakia, Slovenia, Turkmenistan, Ukraine) to determining the extent of air and toxic pollution effects on human health (Armenia, Azerbaijan, Czech Republic, Bosnia and Herzegovina, Kazakhstan, Lithuania, Moldova. Poland, Tajikistan). In contrast, only three countries report on indicators for determining the proportion of the population using solid fuels; these are Albania, FYR Macedonia and Serbia, and this information dates back to the reports of 1999 and 2000.

With respect to targets on water and sanitation, 14 countries (50 percent) have set country-specific targets. These essentially focus on time-bound targets for increasing access of the population to an improved water supply and improved disposal of waste by improving the water and sewage infrastructure. Specific targets also focus on maintaining reserves of water and increasing access particularly to rural areas.

All 28 countries report on indicators of water accessibility. These specific indicators measure access by the population to an improved water supply (Albania, Czech Republic, Poland, Moldova, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine), use of water as a source of energy (Armenia), monitoring the number of cities that have water treatment systems (Azerbaijan), determining the volume of water lost in transmission (Latvia), and investment in water and sanitation infrastructure (Turkey). With respect to sanitation, 19 Europe/CIS countries report progress, which include monitoring and reducing the daily amount of waste produced (Bosnia and Herzegovina, Bulgaria, Croatia, Kazakhstan, Slovakia) and monitoring sewage treatment facilities (Bulgaria, Czech Republic, Lithuania, Moldova, Poland).

Of the 28 countries in the region, four have set country-specific targets for achieving a significant improvement in the lives of at least 100 million slum dwellers (Target 11, Indicator 32). Bosnia and Herzegovina is focused on reducing the number of mine fields; Georgia reports on harmonization of the housing sector with international standards, inclusive of development of a municipal tenure component; Turkmenistan is focused on improving the proportion of private housing as a proportion of total housing; and Kazakhstan seeks to improve the well-being of its population, including improvements in housing, health and education. Indicators reported by 13 countries include improved living space (Albania, Tajikistan, Turkmenistan), the supply of in-house facilities (Kazakhstan, Slovakia, Turkmenistan), and reducing the number of illegal buildings (Turkey). See Box 9 for a discussion of Bosnia and Herzegovina, which has tailored each of three global environmental sustainability targets.

Box 9 Bosnia and Herzegovina: tailoring the MDG7 targets and indicators

Bosnia and Herzegovina prepared MDGRs for 2003 and 2005. The country has adapted the MDGs to reflect its policy programme; the tailored goals form the basis for preparation of the NHDR and are linked to the PRSPs and the EU's Social Inclusion Framework that utilizes the Laeken Indicators to measure progress in reform (EC 2003). The intention of the MDGR is to provide a benchmark by which reform can be measured with the inclusion of the public at large to ensure country ownership.

The conflict in Bosnia and Herzegovina left serious challenges at the levels of political interest, policy, institutions, legislation, capacity, lack of public participation, lack of economic incentives, and an inadequate system for monitoring change. The country developed an appropriate environmental policy and established the Environmental Protection Agency and the necessary laws and regulations for its operationalisation. The country set national targets to monitor forest cover; the targets involved increasing forest cover from 45 percent in 2000 to 52 percent by 2007 (in keeping with the PRSP) and 60 percent by 2015. A land use policy has been developed in support of this target. A policy to maintain biological diversity has also been put in place; the national target here is to increase the percentage of protected land from 0.5 percent in 2007 (also in keeping with the targets of the PRSP) to 6 percent in 2015. Bosnia and Herzegovina also seeks to decrease GDP per unit of energy consumed from 5.2 in 2000 to 4.9 in 2015; towards this end, the plan is to impose a non-renewable energy tax as a percentage of total taxes.The MDGR proposes to reduce CO_2 emissions and to decrease the consumption of electricity from 1473 kwh/pc in 2000 to 1050 in 2007, again complementing the targets in the PRSP.

Setting targets for water and sanitation involved establishing the appropriate infrastructure and the policy changes that dictate it, together with the necessary financial investment. The country set targets to increase the percentage of the population connected to a main water supply system from 53 percent in 2000 to 58 percent in 2007 (PRSP target) and 67 percent in 2015. The percentage of the population with the availability of sewerage disposal systems will be increased from 33 percent in 2000 to 36 percent in 2007 (PRSP target) and 40 percent in 2015.

The reduction of surface area covered with minefields (75–80 percent still needs to be cleared) is a target tailored to national priorities in Bosnia and Herzegovina so that land tenure may become secure. The country proposes to invest the appropriate resources into the effort to increase the percentage of de-mined land from 5 percent in 2000 to 36 percent in 2007 (PRSP target) and 80 percent in 2015.

Source: Based on data in Bosnia and Herzegovina 2003 and 2005 MDGRs.

6.5 LATIN AMERICA AND THE CARIBBEAN REGION

A total of 29 countries from the Latin America and Caribbean (LAC) Region report on environmental sustainability. These include time-bound targets such as protecting at least 10 percent of each ecoregion by 2010, conserving 141 species of threatened fauna and recovery of 48,000 wild animals, increasing a plant index (plantation acreage) from 450 to 700 thousand hectares by 2007 (Brazil), and increasing the number of educational institutions that have sustainable development methods in work systems to 30 percent in 2015 (Chile). Columbia and Costa Rica both set to increase the area of forest cover while Ecuador and Peru set targets to reduce the consumption of ozone depleting CFCs.

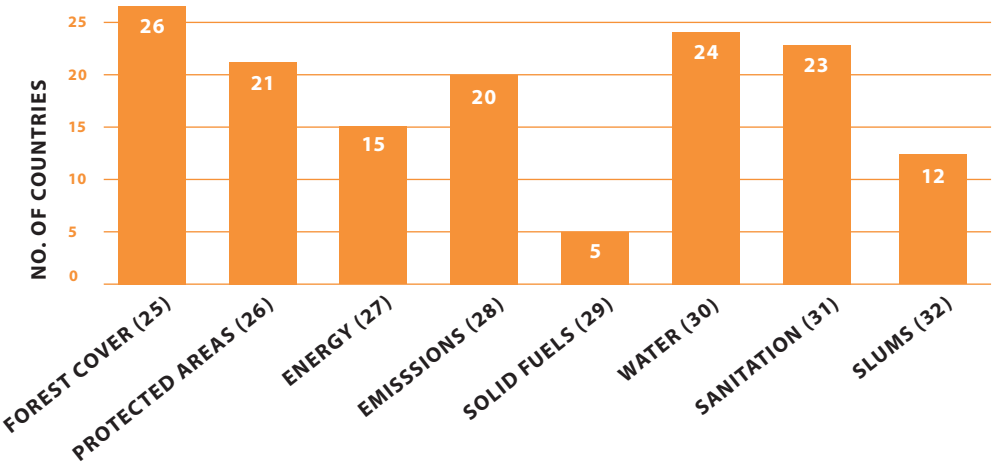
Of the 29 countries that report on MDG 7, 26 countries report on indicators to measure progress as to the proportion of land area covered by forest. More specifically, the indicators they use include the area covered by both plantation and native forest species (Chile), the annual rate of reafforestation (Colombia), the proportion of land impacted negatively by erosion (Haiti, Uruguay), investment in the environment (Bolivia, Peru), the proportion of land that is affected by desertification (Chile), and the proportion of land that is privately owned (Uruguay).

Indicators to measure the ratio of area protected to maintain biological diversity to surface area are reported on by 21 of the LAC countries. The more specific targets and indicators here are adding 165,000 new hectares to the system of national natural parks and having socially agreed management plans for all parks (Colombia) and percentage of territory under environmental management (Venezuela).

Indicator 27, focusing on energy use, is reported on by 15 of the LAC countries reporting on MDG 7. Chile and Mexico are determining the percentage of households that use wood for cooking, with Chile doing so by socioeconomic level; Costa Rica and Brazil are focusing on the proportion of energy that is derived from renewable energy sources, and the Dominican Republic and El Salvador are measuring the proportion of inhabitants without access to energy and reliable energy services.

In terms of carbon dioxide emissions per capita and consumption of ozone-depleting CFCs, 20 countries report that they have indeed reported on indicators to measure progress. Other indicators include emissions of particulate matter (Chile, El Salvador) and other noxious substances (El Salvador) and the balance of emissions and absorption of carbon dioxide emissions equivalent by sector (Nicaragua). Indicators for determining the proportion of the population using solid fuels (Indicator 29) have been reported on by only five countries, with El Salvador measuring the proportion by type of solid fuel.

FIGURE 12 LAC Region: Number of countries reporting on each MDG 7 indicator



A total of five LAC countries have developed country-specific targets for Target 10. These tailored targets include reducing by two thirds the population without access to drinking water and basic sanitation by 2015 (Argentina), increasing the proportion of the population with water treatment services to nearly 100 percent and increasing the supply of potable water (Chile, Costa Rica, Guyana), and improving water and waste management infrastructure (Colombia).

Indicators for increasing the proportion of the population with sustainable access to an improved water source in both urban and rural areas have been reported on by 24 LAC countries; specific interventions include determining the percentage of the urban population without water treatment systems (Chile) and measuring the availability of water by income group (El Salvador).

Sanitation is reported by 23 LAC countries; the specific indicators focus on improvements in determination of the average amount of solid waste that is produced per capita from cruise ships (Belize), the percentage of sewage that is treated (Brazil), and the proportion of households with access to sanitation systems (Mexico, Peru).

Country-specific interventions for achieving a significant improvement in the lives of at least 100 million slum dwellers have been targeted by four countries. Twelve of the 29 LAC countries report on secure tenure, measuring, for example, the provision of owner-occupied homes (Barbados, Honduras, Montserrat), the provision of households with basic necessities (Chile, Honduras), the proportion living in slums, bad and crowded conditions (Costa Rica) and adequate investment in housing (Peru).

6.6 DONOR COUNTRIES

Ten developed countries and the European Commission report on MDG 7. With respect to Target 9, nine reports (with the exception of Belgium and Finland) indicate that they have developed tailored targets for integrating the principles of sustainable development into country policies and programmes and reversing the loss of environmental resources. These tailored targets include time-bound commitments for improving forest cover (Denmark) and reducing greenhouse gas emissions as required under the Kyoto Protocol to UNFCCC in conjunction with increasing the use of renewable sources of energy.

All of the countries report on indicators to measure the proportion of land area covered by forests, energy use (kg oil equivalent) per $1 GDP, and carbon dioxide emissions per capita and/or consumption of ozone depleting CFCs. Indicators for determining the ratio of protected area to maintain biological diversity to surface area are reported on by all countries except Germany. No report included the issue of solid fuel use.

With respect to Target 10, only Portugal among the MDG 7 reporting countries has developed a country-specific target to halve by 2015 the proportion of people with sustainable access to an improved water source. In fact, only Portugal and Switzerland report on indicators to track progress in achievement of this target. Portugal is committed to ensuring that 100 percent of its population has access to potable water and wastewater drainage system as part of its national plans. While Switzerland did not specify a target, they do measure services of sewerage and public waste treatment (Indicator 31). None of the developed countries report on Target 11.

6.7 VARIATIONS BY COUNTRY GROUPINGS

Because it is useful for similar countries to learn from one another's experience, the review of 158 countries' MDG 7 reporting included a similar analysis based on the country groupings. Country groupings are organized by 1) developed countries, 2) developing and landlocked developing countries, and 3) least developed countries and small island developing states.

The review found that developed countries tend to set more targets to reverse the loss of environmental sustainability, particularly to decrease CO_2 and GHG emissions and increase renewable energy use and energy efficiency, than poorer, less developed countries. Nevertheless, developing and landlocked developing countries demonstrate more progress in achieving MDG 7. Least developed countries and small island developing states report on environmental sustainability and set country specific targets and indicators less than the other two groups. (See Annex C for details.)

7 CHALLENGES TO MONITORING AND ACHIEVING MDG 7

FINDINGS: Countries face many difficulties in monitoring the MDG 7 indicators, as well as in the overall goal of making progress on environmental sustainability. Monitoring challenges include not only unreliable and inaccessible data and a lack of statistical capacities, but also difficulties related to lack of public awareness, legislative and regulatory frameworks, inadequate human resource capacity, and the need for more partnerships.

Countries also face a host of difficulties in attempting to make progress on MDG 7. Lack of political will, pressure on environmental resources from high use and natural disasters, insufficient governance and planning policies, social unrest and lack of financial resources are among the difficulties contributing to lack of environmental sustainability.

In the MDG reports, countries identify two distinct sets of challenges. The first set (discussed in section 7.1) relates to the monitoring and reporting process. The second set of challenges (discussed in section 7.2) encompasses the difficulties in making progress towards achieving MDG 7 targets.

7.1 MONITORING CHALLENGES

Monitoring the MDG 7 indicators and the state of environmental sustainability, in general, has been sporadic and weak overall. Less than one half of the 158 countries examined report on the energy, solid fuels and secure tenure indicators, although at least 60 percent report on each of the other five MDG 7 indicators; overall, there is surprisingly little national statistical data available. Time series data—or even two data points that can be compared—are even less available, as Chapter 4 showed.

In their MDG reports, countries identify various challenges in monitoring and reporting on environment indicators, which includes unreliable and inaccessible data and a lack of statistical capacities and monitoring mechanisms. Countries also report on priority measures that would improve monitoring capacities and methods. Table 7 summarizes the challenges and priorities extracted from the MDGRs of the 158 countries; the challenges and priorities are organized by the following themes: education and public awareness, legislative and regulatory frameworks, human resource capacity, coordination and partnerships, and data constraints.

Table 7 Challenges in monitoring environmental sustainability reported in the MDGRs

CHALLENGES	PRIORITIES
Education and Public Awareness Lack of environmental information especially at the community level, insufficient research, weak statistical capacity and inadequate availability of appropriate technology for resource exploitation are hindering monitoring of global and tailored targets. Countries conduct environmental activities but, due to a lack of knowledge, do so without full awareness of the environmental sustainability goal and targets.	Increase public access to educational opportunities especially in the area of the environment (e.g., MEAs) and to increase user consciousness, especially of communities, of natural resource conservation through training and guidance. Strengthen research capacity.
Legislative and Regulatory Framework The absence of a coherent legislative framework and property rights law retards monitoring of targets. This stems from the lack of guidelines, standards, monitoring, and enforceable legislation on resource use and an ineffective regulatory framework for resource monitoring and enforcement of safety standards.	An appropriate legislative framework for proper monitoring of MDG 7 targets. This requires improvements in laws and regulations related to natural resource conservation and an improved regulatory framework for monitoring of compliance and enforcement of resource laws.
Human Resource Capacity The lack of human resource capacity within Ministries and the shortage of qualified and trained practitioners weaken the capability of governments to monitor activities and indicators that could provide guidance on effectiveness of strategies.	Strengthening the human resource capacity of government staff is important to effective monitoring of indicators. Allocation of financial resources for training of professionals.
Coordination and Partnerships Insufficient funds to monitor resource use results in accessing donor aid. However, lack of coordination of activities among institutions with mandates for natural resource conservation and poor coordination of resource use interventions among development partners severely retards monitoring of progress towards targets. This sometimes stems from overlap in the mandates of authorities involved in resource management and poor coordination of resource use among governments and donors so that development strategies towards achievement of MDG 7 halt.	Greater coordination among all actors in natural resource management. This applies particularly to donors to ensure that national mandates are pursued. In this regard, it is necessary to clarify the roles of institutional actors in natural resource management and to clearly focused define use of donor funds.
Data Constraints Insufficient availability of data and disaggregated data, lack of baseline data to act as references, and uncoordinated data collection inhibit the monitoring of targets set.	An efficient system for data gathering in the form of a central repository of data easily accessed and used in monitoring MDG 7 targets.

7.2 CHALLENGES TO ACHIEVING MDG 7

A number of challenges in making progress on environmental sustainability are articulated in the MDG 7 country reports. Such challenges include lack of political will and appropriate policies, institutional weaknesses, the high incidence and diversity of disasters, poor governance structures, high population growth, lack of financial resources and uncontrolled use of resources. One of the main challenges is lack of coordination among internal authorities stemming from an unclear definition of roles and responsibilities. Collaboration among the donors also presents difficulties in terms of differences between country priorities and those of the donor community. Some of the more important challenges and priorities are presented under broad headings in Table 8.

Table 8 Challenges and priorities related to progress in achieving MDG 7 target

CHALLENGES	PRIORITIES
Political Will Lack of political recognition of the need for natural resource conservation and low commitment by decision makers with respect to MDG 7 retarding progress.	Encourage long-term political commitment for natural resource conservation.
Resource Use The uncontrolled exploitation of natural resources, together with poor agricultural practices, especially by communities, may cause deforestation and increase pollution. High dependency on oil for energy and increasing consumption of resources may cancel out progress that has been previously made.	Control demand, and therefore consumption, of resources.
Governance Corrupt practices in exploitation of the environment through misallocation of funds, lack of transparency and accountability, and illegal trading of resources inhibit progress in achieving MDG 7 as implementation of strategies to meet the goal is impeded. Conflicting provisions between policies, plans and acts within weak institutional and management frameworks and domestic debt tend to remove focus from achievement of MDG 7 targets, as other matters are deemed more important. Additionally, domestic debt diverts financial resources from environmental sustainability. Centralized governance and lack of involvement of local government and stakeholders, especially women and those with indigenous knowledge also retard a holistic approach to resource conservation.	Removal of unlawful practices that drain the natural resource base is a priority. Measures for coordination of policies, plans and programmes need to be established, and the involvement of all stakeholders in natural resource management is important.
Planning Policies The absence of a regional planning policy where appropriate and of other policies on sustainable forestry and protective areas, together with the difficulty of incorporating principles of sustainable development into programmes designed to meet MDG 7 targets, severely retards progress in achievement of this goal.	It is necessary to formulate relevant policies that could support national strategies for sustainable development and to develop strategies to deal with trade shocks. The involvement of civil society in formulation of these policies is critical to their success, since these groups control implementation of such strategies at the local level.
Lack of Natural Resources and Uncontrolled Population Growth High urban population growth placing stress on the natural resource base and widespread poverty that increases the demand for food and energy inhibit progress towards achieving MDG 7.	Strategies to balance the population growth and movement to resource use. Improvement in rural living conditions through land incentives could help improve the standard of living, conserve the resource base and encourage progress in achieving MDG 7.
Disasters The increased incidence of forest fires; loss of infrastructure by war (Burundi), civil war, armed conflict and social unrest resulting in political instability; drought increasing scarcity of water and desertification; floods that destroy resources, infrastructure and systems and earthquakes that damage resources—all result in destruction to some extent of the natural resource base and inhibit progress towards achieving MDG 7.	Development of strategies such as early warning systems to mitigate natural disasters is important. Rehabilitation of war-affected zones is also critical but even more intrinsic is the restoration of political stability.
Lack of Financial Resources Progress in achieving MDG 7 targets depends largely on the availability of funds for activities related to resource conservation. Low levels of investment in resource conservation and insufficient funds to change to cleaner technologies and for education and public awareness programmes retard achievement of the targets.	Implementation of financial measures to improve infrastructure, education, awareness and technological adaptations for natural resource conservation is necessary. Investment in the development of early warning systems to prepare for disasters would also address this challenge.
MDG 7 Frameworks Challenges Indicator 32 is too vague (Kuwait) and may be better defined as urban squatters (Fiji, Azerbaijan).	Clearer definition of access to secure land tenure needed.

8 TAILORING TARGETS AND MONITORING PROGRESS ON MDG 7: STEPS FOR COUNTRIES

EIGHT KEY STEPS HAVE BEEN IDENTIFIED FOR TAILORING MDG 7 TARGETS:

1) assess country environmental issues; 2) identify and review existing priorities; 3) use analytical frameworks to determine additional critical parameters; 4) set country-specific and verifiable targets; 5) select indicators and establish baseline to track progress; 6) implement monitoring and data gathering systems; 7) analyse and interpret results; and 8) communicate the results to policy makers and the public.

Countries have several options in selecting frameworks for reporting on MDG 7. The general trend—particularly among the least developed countries (LDCs) and small island developing states (SIDS)—is to closely follow the global targets and indicators and monitor these *per se*[11]. Yet, for the reasons outlined in Chapter 1, mechanically adopting the global targets and indicators without linking them to national policies and priorities, local context, or ecosystem specificities means both that the targets may be irrelevant at the national level and that their pursuit at the country level does not contribute to any significant progress on these global goals. What is needed instead is for countries to *adopt* the principle of environmental sustainability that is the heart of MDG 7 and then *adapt* that principle to the specific ecosystem conditions and policy priorities of their countries. Such country- and context-specific tailoring of the global targets and indicators will do more to advance the global environmental sustainability goal than rigid adherence to targets that may or may not be relevant in specific settings.

The review of MDGRs suggests that countries with a clear, evidenced-based and widely shared vision of what they want to do with their environmental resources make the most progress towards the goal of environmental sustainability. (See Box 10 for a summary of key principles that should govern the process of tailoring and monitoring MDG 7 at the country level.)

11. Countries that close follow the global framework include Barbados, Bolivia, Comoros, Cook Islands, Côte d'Ivoire, Cuba, Dominica, Dominican Republic, Ethiopia, Micronesia, Fiji, Georgia, Grenada, Guatemala, Iran, Jamaica, Jordan, Kiribati, Kosovo, Madagascar, Marshall Islands, Mongolia, Montserrat, Morocco, Nauru, Niue, Palau, Panama, Paraguay, Samoa, Solomon Islands, Saint Lucia, Sudan, Togo, Tokelau, Tonga, Tuvalu, Vanuatu and Zambia.

Box 10 Key principles for operationalising MDG 7 at the country level

Use country-led mechanisms, tailored to local circumstances and priorities, to drive progress. UNDP advocates country-led systems for setting, monitoring and achieving measurable targets for environmental sustainability. Environmental resources are country-specific and unequally distributed, requiring context-specific targets that address different development paths according to a country's unique resource endowments and human and technical capacities.

Draw on existing environmental targets and environmental information and monitoring systems. Efforts to establish country-specific targets for MDG 7 should draw on, and harmonize, targets in existing frameworks and strategies for sustainable development, such as National Sustainable Development Strategies, Poverty Reduction Strategies and National Conservation Strategies. These indicators can be refined or augmented with additional indicators to reflect current country priorities.

Link to a national system for sustainable development. Monitoring is part of the fabric of sustainable development and has little or no meaning unless it is interwoven with policies, strategies and programmes. Monitoring of progress towards environmental sustainability is part of a systematic, ongoing learning process featuring continual assessment, feedback and strategic action not only across the environmental sector, but also in economic and policy sectors that strongly influence the quantity and condition of environmental assets, such as agriculture, energy, forestry, mining, transport and trade.

Link to specific outcomes. Environmental sustainability targets that are specific, concrete and measurable are essential to ensuring progress at the country level. These targets might relate to pressures on the environment, the state of the environment, or responses to environmental pressures and conditions.

Use the best available data. Ideally, monitoring of progress towards environmental sustainability will be based on specific national or sub-national data, and priority should be given to generating and using such data and databases. In the absence of national-level data, countries can make use of the best available high-quality data, including standardized global databases or data from other reporting avenues, such as State of the Environment Reports or thematically focused policy analysis in the National Human Development Reports.

Choose sets of indicators that capture key environmental challenges. As a quantitative tool representing complex phenomena in a simplified form, a single indicator cannot hope to depict the various dimensions of environmental sustainability in all their complexity and uncertainty. Environmental sustainability is likely to be best represented by multiple sets of indicators, with the precise combination varying from country to country. These indicator sets should capture the highest-priority environmental issues and challenges in a country, drawing from the global MDG 7 indicators as appropriate.

Align geographic scales and levels of response. Identifying the most appropriate geographic scale for monitoring environmental pressures, conditions and responses is a challenging task and one of the most critical decisions in analysing and reporting progress towards environmental sustainability. National-level data can mask significant sub-national differences, and systems of environmental information and governance are rarely found in an optimally devolved pattern. Disaggregating data to sub-national levels, taking into account the spatial differences and nature of environmental issues, is an important component of good practice.

Use collaborative approaches. Efforts to monitor progress towards MDG 7 are most effective when integrated with established monitoring programmes and linked to key actors inside and outside government. The national statistics offices primarily lead the collaborative effort. Existing country-level environmental monitoring processes, such as national communications on multilateral conventions and treaties, can serve as a basis for further development and strengthening of programmes for monitoring environmental sustainability.

Maintain a long-term perspective. Establishing and strengthening environmental information systems and building related institutional capacity are ongoing, long-term processes. In capturing data, producing useful information and managing knowledge on environmental sustainability, the perfect can easily become the enemy of the good.

Report regularly on progress. The results of monitoring progress towards environmental sustainability are only of value when they are known and used. Every monitoring function should have a corresponding regular reporting mechanism that disseminates information on observed trends and assessment of progress. Reporting on the results of environmental sustainability monitoring should be sufficiently simple to be comprehensible and useful for the target audience, whether it is scientists, policy makers or the public.

UNDP has developed guidance on the broader process of developing an MDG-based national development strategy, including detailed modules on tailoring targets to that strategy (UNDP 2005b). The guidance is aimed at government officials (e.g., cabinet members and heads of line ministries); national planners, whether in government, academia, or the private sector; and decision makers at both the national and community levels. Discussed here are specific steps to be used in tailoring targets and indicators for MDG 7. The idea is to identify national priorities, ensure that the priorities are consistent with one another, select targets that can adequately move the country towards those priorities, and identify indicators that will help to monitor progress.

The eight major steps for successful tailoring can be followed in the order offered here or in a different sequence, depending on need. The steps are:

1) assess country environmental issues;
2) identify and review existing environmental priorities and targets in national policies and programmes;
3) use analytical frameworks to determine additional critical parameters to progress;
4) set verifiable, time-bound, country-specific environmental sustainability targets;
5) select indicators and establish a baseline to track progress towards environmental sustainability;
6) implement monitoring implementation and data gathering systems;
7) analyse and interpret monitoring results; and
8) communicate the results of monitoring progress towards MDG 7 to policy makers and the public to inform decisions and adjust responses accordingly.

8.1 ASSESS COUNTRY ENVIRONMENTAL ISSUES

An important step in developing country-specific environmental targets is to identify the environmental assets most relevant to national development outcomes, by asking some key questions such as:

- What are the basic environmental resources of the country? What state are they in? What are the known pressures and root causes? What have been, so far, the major policy and programme responses to ensure their sustainable management?
- What environmental resources are critical to the poor and contribute most to poverty reduction?
- To what extent is environmental degradation part of the root causes of poverty and hunger?
- What environmental issues are most critical to health?

A detailed list of the kinds of questions that deserve attention in this process is provided as Annex D.

8.2 IDENTIFY AND REVIEW EXISTING NATIONAL ENVIRONMENT AND DEVELOPMENT PRIORITIES

A useful approach in setting country-specific targets and indicators is to identify the development strategies that the country has already put in place through other processes and the targets to which the country has already committed. Tailoring MDG targets and indicators and aligning them with other development instruments and objectives helps to define priorities and to ensure complementarity and cohesion with existing national mechanisms; this in turn helps to ensure the environment-development interface is fully considered in monitoring of progress towards MDG 7.

Examples of plans to be reviewed to identify previously determined priorities include Poverty Reduction Strategies, National Strategies for Sustainable Development, National Communication on Climate Change, National Environmental Action Plans, National Biodiversity Strategies and Action Plans, Common Country Assessments, five- to ten-year development and sectoral plans and strategies, and United Nations Development Assistance Frameworks.

Bosnia and Herzegovina, Egypt and Viet Nam are examples of countries that have aligned their national targets and indicators in this manner for integrating MDGs. Sector plans in such areas as agriculture, transport, forestry, etc., may also include targets that can serve as the yardstick against which to measure country MDG 7 progress. In general, it is worth noting that alignment at the country level between MDG 7 targets and the targets found in PRSPs has been weak, with the exception of targets for access to clean water and sanitation (Bojo and Reddy 2003).

Numerous additional sources of information to determine national priorities exist. Section IV of the Millennium Declaration, 'Protecting our Common Environment', identifies some issues that have the potential to impede progress towards environmental sustainability, including soil erosion, desertification, increases in natural disasters, global warming, deforestation, biodiversity loss and water scarcity. The Millennium Declaration Road Map contains a number of targets that may be adopted, modified or mirrored at the country level. (See Box 11.) At the World Summit for Sustainable Development (WSSD), countries agreed to a number of concrete, global and time-bound targets in the Johannesburg Plan of Implementation (JPOI). (See Table 9.) A country needs to assess the extent to which these global priorities coincide with national priorities, and whether they have been translated into specific measurable targets and articulated in national policies and programmes.

Box 11 Millennium Declaration Map: environmental sustainability goals and targets

- to halve, by 2015, the proportion of people who are unable to reach or afford safe drinking water (Para. 83, i.e., modified MDG 7 Target 10);
- by 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers, as proposed in the 'Cities without slums' initiative (Para. 117, i.e., MDG 7 Target 11);
- to make every effort to ensure entry into force of the Kyoto Protocol, preferably by the tenth anniversary of the United Nations Conference on Environment and Development (UNCED) in 2002, and to embark on the required reduction in greenhouse gas emissions (Para. 164, i.e., related to MDG 7 Indicator 28);
- to intensify our collective efforts for the management, conservation and sustainable development of all types of woodlands (Para. 172, i.e., related to MDG 7 Indicator 25);
- to press for the full implementation of the Convention on Biological Diversity and the Convention to Combat Desertification in those countries experiencing serious drought and/or desertification, particularly in Africa (Para. 177);
- to stop the unsustainable exploitation of water resources by developing water management strategies at the regional, national and local levels which promote both equitable access and adequate supplies (Para. 183);
- to intensify and reduce collective efforts to reduce the number and effects of natural and man-made disasters (Para. 186); and
- to ensure free access to information on the human genome sequence (Para. 191).

Source: UNGA 2001.

Table 9 World Summit for Sustainable Development (WSSD) targets

WATER	develop integrated water resources management and water efficiency plans by 2005, with support to developing countries (p. 15)
BIODIVERSITY	encourage by 2010 the application of the ecosystem approach (p.16) develop representative marine protected area networks by 2012 (p. 18) achieve by 2010 a significant reduction in the current rate of loss of biodiversity (p. 26)
SANITATION	halve the proportion of people who do not have access to basic sanitation by 2015 (p.4)
CHEMICAL POLLUTION	achieve by 2020 that chemicals are used and produced in productive ways that lead to the minimization of significant adverse affects on human health and the environment (p.13)
FISHERIES	maintain or restore fish stocks to a level that can produce a sustainable yield by 2015 (p. 17)

8.3 ANALYTICAL FRAMEWORKS TO DETERMINE ADDITIONAL CRITICAL PARAMETERS TO MEASURE PROGRESS

Analytical frameworks are useful to help sort out what to measure and monitor in order to assess progress towards environmental sustainability. They show the principal components and functions of environmental sustainability and model how these relate to one another. An analytical framework can help elucidate priorities and ensure coherence and soundness in target setting and monitoring.

One such framework involves using a 'capital approach' to track stocks and flows of different kinds of capital (financial, physical, human and natural) needed by future generations (Bell and Morse 2003:36)[12]. Important natural assets that can be tracked using this approach include natural resources (such as timber and minerals) and critical ecosystem services (such as the provision of clean water and soil fertility). The process of assigning economic values to environmental assets has proven to be complex and difficult, in part because changes in the provision of key ecosystem services—for example, those provided by wetlands—do not lend themselves to simple, straightforward measurements and economic valuation. There is a resulting undervaluation of most environmental assets. The capital-assets model attempts to simplify the process of economic valuation of environmental assets by identifying physical variables that can be measured relatively easily to provide a more straightforward method for quantifying changes in environmental assets and better integrating environmental sustainability into systems of national accounts.

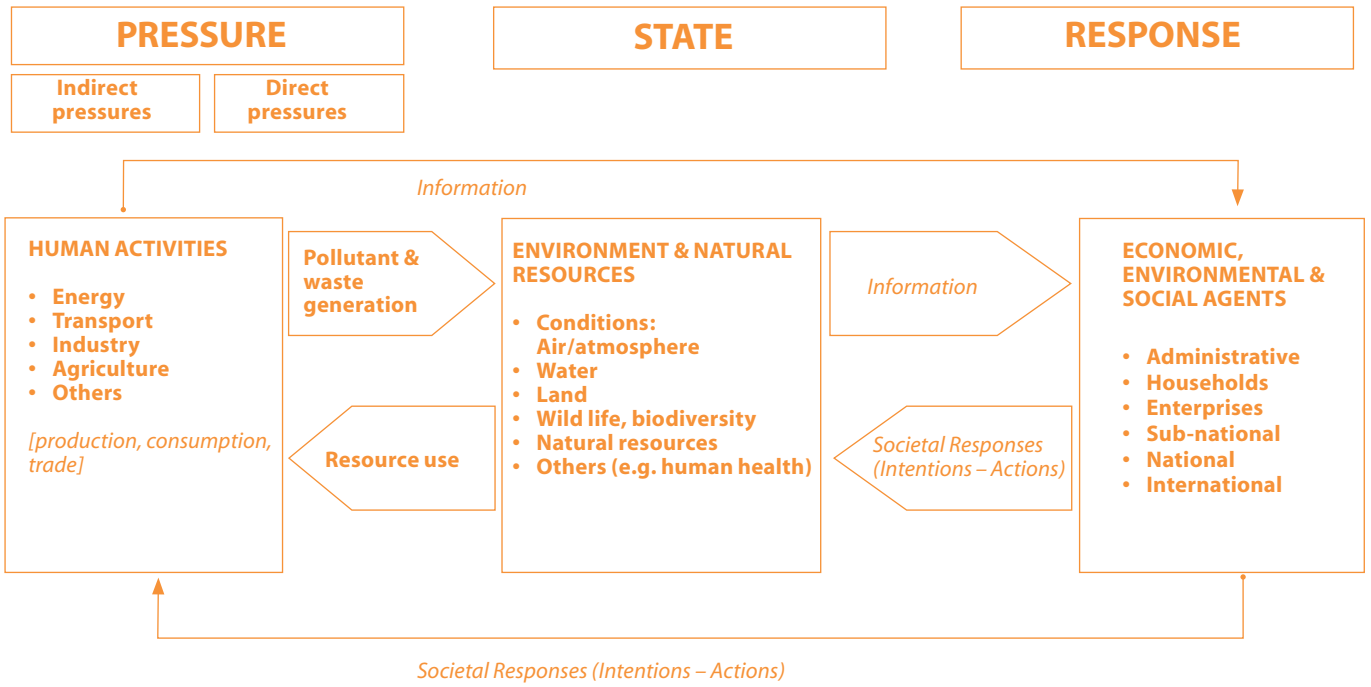
Another approach is to use indicator-based assessments, which are guided by an overarching framework connecting the different aspects of environmental sustainability. A commonly adopted framework for determining what to measure and for interpreting the findings of measurement is the Pressure-State-Response (PSR) model. The PSR model—first developed by Statistic Canada and adapted by the Organization for Economic Cooperation and Development (OECD)—is a framework for determining what to measure and for interpreting the findings of measurement. The model first defines the types of challenges or pressures that the country faces, identifies as impacts on the natural resource base, and finally devises mechanisms that the state uses to address them. It assesses the negative (e.g., environmental degradation) rather than the positive (e.g., climate regulation) environmental externalities related to the functions and services that healthy ecosystems can provide. (See Figure 13.) The model makes apparent the interrelationships among actors and the feedback mechanisms that operate. Information about changes to the state of the environment as well as associated environmental pressures can then be conveyed to society, which may respond individually or collectively with policy, programme, stewardship or behavioural measures. Thus, the PSR model uses a holistic approach linking causes, effects and social responses (OECD and UNDP 2002:318).

The increasing use of the PSR model is helping countries to assess national and sub-national priorities, targets and indicators as well as to refine understanding of cause-and-effect links (shown below). In recent applications, the model has been extended to include *driving forces* as well as *impacts*—the **Driving Forces-Pressure-State-Impacts-Response Model**:

- **driving forces** of environmental change (e.g., industrial production);
- **pressures** on the environment (e.g., discharges of waste water);
- **state of the environment** (e.g., water quality in rivers and lakes);
- **impacts** on population, economy, ecosystems (e.g., water unsuitable for drinking); and
- **response** of the society (e.g., watershed protection).

12. For further details on this approach, see NRTEE (2003), which reviews five such approaches.

FIGURE 13 The Pressure-State-Response (PRS) Model



Source: OECD 2001b:134. See also http://lead.virtualcentre.org/en/dec/toolbox/Refer/EnvIndi.htm.

This adaptation by the European Environmental Agency (EEA) includes an additional element of the perceived impacts of a change in state on human health, ecosystems and materials as influencing how stakeholders respond to this change (EEA 1999:6). In both versions, the basic idea of linking the quantity and quality of natural resources and the environment to the factors affecting it and the responses to ensure environmental sustainability is applicable.

The pressure, state and response indicators have been used interchangeably in MDG country reporting, and the increasing use of the PSR model is helping countries to assess national and sub-national priorities, targets and indicators as well as to refine understanding of cause-and-effect links needed for interpretation of modelling results. Countries such as Bangladesh, Bulgaria, Cambodia, Chile, China, Latvia, Moldova, Myanmar, Pakistan, Philippines, Sri Lanka and Viet Nam are using this model to set Target 9. Eleven countries used it to set Target 10, including Bhutan, Botswana, Pakistan, Philippines, Syria and Zimbabwe.

The examples of Egypt, Bangladesh and Kazakhstan illustrate how the PSR model works. Egypt used the PSR model for setting both Targets 9 and 10. In setting Target 9, Egypt indicates that rapid population growth together with limited resources is applying stress to the biological diversity of the country and as such, the land area under protection is diminishing. Egypt plans to strengthen the role of the Environment Agency as well as to integrate biological diversity conservation into the NEAP so that the proportion of area covered by natural protectorates would be increased to 15 percent by 2017. Bangladesh used the model for setting Target 10. The country faces the challenge of rapid population growth, which has resulted in an increase in the daily per capita consumption of water; it also has a problem with water wastage. To address these issues, Bangladesh has committed to improving water supply schemes and clean water technology, strengthening community participation, establishing and monitoring water quality standards, and preparing watershed management plans so that, by 2007, 100 percent of the population will have access to safe drinking water. Kazakhstan used the PSR model in its report on MDG 7. Its MDGR looks at the state of

water resources, in terms of both quantity and quality, and identifies pressures on these resources, such as irrational irrigation practices and improper regulation of river water flows; responses are given in the NEAP and other policies.

Other analytical frameworks used by countries include the Theme Indicator Framework of the United Nations Commission on Sustainable Development (UNCSD), the United Kingdom Headline Indicators Series and the Canada Environmental Indicator Series. Each of these frameworks focuses on defining pressures on natural resources and developing the appropriate targets and indicators that would help to relieve these pressures and thus improve the state of the environment. Countries that used these models for target-setting focused on national priorities, pressures or drivers and tried to fit the global targets and indicators into the framework. For example, Montserrat faced the challenge that a volcano eruption could destroy forests and is embarking upon reafforestation schemes to address this situation. Peru views the lack of investment in the environment as a key challenge to achieving the targets and therefore lists investment in the environment as an indicator to be monitored. Guyana is vulnerable to environmental shocks, such as flooding, that threaten destruction of infrastructure, especially in low-income neighbourhoods. It is addressing the situation by developing a monitoring and evaluation system for environmental disasters; the aim is to promote rational land use and reduce the incidence of squatting to reduce vulnerability in these communities and significantly improve life by 2020.

8.4 SET VERIFIABLE, TIME-BOUND, COUNTRY-SPECIFIC TARGETS

Through the use of information from the assessment of other national priorities and commitments and the results of the analysis of the state of the environment and its pressures, it is possible to set country-specific targets—either by modifying the global MDG 7 targets or by establishing new ones. Targets for environmental sustainability should reflect the best available information, stakeholder consensus, and a consideration of appropriate geographic scales and levels of response. Time paths also need to be established. Targets are verifiable achievements directly related to the goal. Targets should state clearly where the country wishes to focus environmental efforts. Monitoring progress towards targets provide the essential means by which to answer the question: Are we doing better or worse than previously in terms of ensuring environmental sustainability in our country?

This is exactly what many countries whose MDGRs were reviewed have done. Of the 158 countries reviewed, 85 have set at least one country-specific environmental target for achieving MDG 7. On average, they have developed or tailored three country-specific targets, with such countries, such as Kenya, Cambodia, Fiji, Pakistan, Bosnia and Herzegovina, Kazakhstan, Turkmenistan, Chile, Colombia and Costa Rica setting multiple targets that cover Targets 9, 10 and 11. Not all of the targets set by countries have been quantifiable or time-bound; as such, they are of less value and probably not even adequate as targets. To be useful, a target needs, at a minimum, to be verifiable; quantifying the results or desired outcomes facilitates assessment of progress and simplifies reporting.

In setting targets, some countries have altered the time horizon from those in the Millennium Development Goals (2015), and a handful of countries have set intermediate targets. The Millennium Task Force on Access to Water notes the value of setting intermediate milestones at the national (and sub-national, where appropriate) level for 2005 and 2010. This can be deemed good practice since 'monitoring of annual and intermediate targets can also serve as an early warning to identify the factors affecting the progress and used to inform reorientation of actions based on interim successes or failures' (Bojo and Reddy 2003:31).

The most frequently modified targets are those pertaining to water and sanitation, sometimes bundled together or made more ambitious. Additional priority concerns emerging from country-specific targets addressing water and air pollution, salinization, waste, transport, and land degradation, emerged as key ingredients for making progress on environmental sustainability.

Target setting is a political process that involves communication and debate among the public and policy makers. Thus, because environmental conditions vary among countries and because priorities must reflect preferences within the country, targets work best when they are country-specific, concrete and measurable.

8.5 SELECT INDICATORS AND ESTABLISH A BASELINE FOR TRACKING PROGRESS

Once priority areas for environmental monitoring have been established and targets have been set, sufficient information needs to be harnessed through indicators to first establish a baseline and then assess progress.

Indicators are tools that simplify phenomena, enabling policy makers and analysts to assess and communicate change. Indicators differ from data in that they are operational representations of the attributes of a system, while data are actual measures of system characteristics. Indicators need to reflect a value to be useful for assessment; quantitative indicators that have numerical values are most helpful in tracking environmental sustainability, while qualitative indicator can also be used inasmuch as they are verifiable ordered values. Indicators should have direct links with interventions and be relevant for policy-making and/or advocacy. As a basis for assessment, indicators serve to highlight both progress and challenges. An indicator and its target can be stated in the same terms (for example, proportion of the population with access to safe drinking water) or indicators can be stated in terms that suggest progress towards broader targets.

The PSR model, which highlights how various types of indicators of environmental sustainability are connected, suggests a number of ways to identify indicators—environmental pressures and driving forces, the state of the environment, and country responses—all of which have beenin the MDGRs of the 158 countries analysed. Table 10 provides examples of indicators of environmental pressures and driving forces that countries have used in reporting on MDG 7.

Table 10 Environmental pressures and driving forces indicators: examples from national MDGRs

DRIVER OR PRESSURE	ASSOCIATED INDICATORS (COUNTRY)
Population	population growth rate (Bhutan, Rwanda, Viet Nam); urban population growth rate (Afghanistan, Cameroon, Guinea, Saudi Arabia, Viet Nam); doubling time (Cameroon, Rwanda, Viet Nam); population density (Rwanda, Viet Nam); percentage of population living in coastal areas (Bahrain)
Agricultural Production	average farm size (Lithuania); agricultural land area per person (Algeria); percentage of population dependent on agriculture for income (Afghanistan, Viet Nam); percentage of agricultural land (Rwanda, Lithuania)
Air	CO_2 emissions as a share of world's total (Bahrain, Bhutan), SO2 emissions, particulate matter emissions (Bahrain, Bhutan, Poland); sulphur content in high-speed diesel (Pakistan); lead concentration in air (Jordan)
Industry and Transport	total CO_2 emissions (Bahrain, Bhutan, Egypt, Gambia, Poland); energy production in million KW hours (Tajikistan); fishing as a percentage of exports (Mauritania)
Pollution and Waste	urban waste discharge (Algeria); municipal waste generation per day (Bahrain); percentage of annual increase in municipal, solid, oily, health care wastes; industrial wastes (1000 tons)/dumping (Bahrain, Poland, Tajikistan); hospital waste generation per day (Bosnia and Herzegovina); industrial and municipal seawater discharged into surface waters in cubic hectometres and as a percentage disaggregated by industrial or municipal and treated or untreated; sewage discharge (Poland); solid waste accumulation in metric tons (Kazakhstan); low-level and medium-level radio active waste accumulation in metric tons (Kazakhstan); wastewater discharge into surface waters in m3/year (Kazakhstan, Lithuania); percentage of domestic solid waste dumped in landfill (Lebanon; number of days with high particulate matter in the air (Chile); quantity of NOx and particulate matter in the air (El Salvador); number of people suffering from respiratory disease (Azerbaijan); water in danger of pollution (Tunisia); percent of air pollution from vehicles (Moldova)
Water Consumption	rural water consumption per day (Kazakhstan); water wastage (Bhutan); household water use per day (Tajikistan); percentage of drinking water provided from underground sources (Tajikistan)
Energy Consumption	percentage of population dependent on fuelwood as a primary energy source (Cambodia); proportion of population depending on wood for domestic energy (Rwanda); energy consumption in KJ and by use (Cambodia, Occupied Palestinian Territories); percentage of imported electricity consumed and petroleum products (Occupied Palestinian Territories)
Conflict and Crises	percentage of overall surface area made up of mine fields (Bosnia and Herzegovina); number and type of natural disasters registered per year (earthquake, mudflow) (Tajikistan)

Indicators monitoring the state of the environment address environmental quality as well as the quantity and condition of a country's natural resource assets. Such indicators help to show emerging trends and can be linked to national income accounts, poverty monitoring, natural resource inventories, remote sensing and sector information systems. Table 11 provides examples of indicators of the state of the environment from the MDGRs.

Table 11 State of the environment indicators: examples from national MDGRs	
ENVIRONMENTAL STATE	ASSOCIATED INDICATOR (COUNTRIES)
Water	internal renewable water resources per capita (Armenia, Guinea); exploitable groundwater in million m3 (Lebanon); water intake (Poland); percentage of water available for irrigation (Guinea, Palestine); percentage of clean rivers (Malaysia); percentage of fresh water concentrated in glaciers (Tajikistan)
Land and soil	percentage of arable land (ha) per capita (Afghanistan, Armenia, Guinea, Kazakhstan, Saudi Arabia, Viet Nam); percentage of arable land affected by erosion (Tajikistan, Tunisia, Uruguay); percentage of territory exposed to desertification (Cameroon, Kazakhstan, Mauritania, Kyrgyzstan); percentage of soils subject to secondary salinization as percentage of total arable land (Kyrgyzstan); coastal area (ha) lost per annum (Lithuania); percentage of land classified as dryland (Tanzania); area of land covered by landmines (Jordan)
Biodiversity	percentage of species of African birds, reptiles and mammals in protected areas (Cameroon); extent of marine resources or mangroves (ha) (Kenya, Philippines); indigenous forests as a proportion of forest reserves (Kenya); number of registered conservancies (Namibia); surface of fish sanctuary (Cambodia)
Forests	percentage of the country under forest cover in perpetuity (Bhutan); deforestation rate (Guinea, Mauritania); total forest area lost per person (Viet Nam); value of exports of saw timber in percentage of state budget (Cameroon); number of native and plantation trees (Chile)
Pollution	proportion of major rivers that do not meet the biological oxygen demand (BOD) (Thailand)
Carbon dioxide	contribution of CO_2 to the world total (Bahrain)

Response indicators show how different actors, including government and non-governmental entities, respond to issues and conditions affecting environmental sustainability. Some examples in Table 12 of indicators of the state of the environment, such as the percentage of species in protected areas, could also be considered a response indicator. Such potential ambiguities illustrate the need for further refinement of indicator systems. Table 12 provides examples of *response indicators* in MDG 7 country reports.

Table 12 Response indicators: examples from national MDGRs	
RESPONSE	ASSOCIATED INDICATOR (COUNTRIES)
Forests	percentage of forests privately owned (Bosnia and Herzegovina; investment in reforestation and rehabilitation (Albania)
Protected areas	extent of sanctuary (Kenya); surface of fish sanctuary in thousands of hectares (Cambodia); surface of forest protected areas (Cambodia); number of rangers in protected areas (Cambodia); number of rangers in forest protected areas (Cambodia); percentage of total land area designated as biological corridors that connect protected areas; protected coastal areas (Lebanon); proportion of land protected through soil moisture, water and forest conservation to protect biodiversity (Bhutan); proportion of parks with plans for handling social agreements (Colombia)
CO_2 and CFCs	atmospheric pollution from stationary sources neutralized after treatment (Lithuania); percentage of water and air quality monitoring stations reporting results (Viet Nam)
Energy	energy generated from renewable sources (Lebanon)

Table 12, continued	
Solid Fuels	use of solid fuels for improvement in the city (Benin)
Water	percentage of water supply systems meeting sanitary requirements (Kazakhstan); percentage of urban and rural population with access to piped water (Egypt, Kazakhstan)
Sanitation and waste	percentage of population with access to flush toilets (Bahrain); percentage of (urban) population provided with central sewage facilities or connected to sewage system (Bahrain, Bosnia and Herzegovina); percentage of sewerage effluent with tertiary treatment (Bahrain); towns with populations more than 2,000 served by wastewater treatment plants (Bulgaria); proportion of the population covered by an organized waste collection and disposal system (Bulgaria); percentage of population with access to wastewater networks (Lebanon); number of urban sewage treatment plants (Poland); storing and reuse of radioactive waste (Tajikistan); investment in potable water services and water treatment (Peru); distribution of households according to method of supply of drinking water (Cameroon)
Tenure	percentage of land parcels having titles in both rural and urban areas (Cambodia); number of households owning their own lodging; percentage distribution of housing units by tenure (owner, tenant, sub-tenant, free, other) (Mauritania); percentage of households built with permanent materials and those with covered floors (tiles, cement) (Cameroon, Honduras); percentage of land in private hands (Uruguay); percentage of people with access to improved public health service as a result of improvement in living conditions (Angola); percentage of low-cost housing (Malaysia); proportion of slums regularized (Pakistan); investment in housing (Peru); percentage of mine fields cleared (Bosnia and Herzegovina); percentage of households with access to housing subsidies (Mali)
Infrastructure	proportion of population with access to basic infrastructural services (of water, sanitation and electricity, heating, sewerage, shower) (Honduras, Kazakhstan); basic household amenities as a proportion of all inhabited housing units (water mains, lavatory, bath, grid gas, central heating) disaggregated by rural and urban (Honduras, Kazakhstan, Poland)
	Number of community-based fisheries (Cambodia)
	Number of organic producers (Uruguay)
	Public investment directed towards environmental management (Bolivia, China, Peru)

Country reporting can use other sources of environmental indicators and indicator sets. Examples include the UN CSD Theme Indicator Framework, the OECD Core Set of Environmental Indicators, the United Kingdom's Headline Indicators Series, and the Canada Environmental Indicators Series. The number of indicators in these sets ranges from 10 to 50; they are derived from sectoral information (e.g., transport, agriculture, household consumption and tourism) as well as from the natural resource accounting systems established in a few countries.

Table 13 provides examples of indicators found in each of these sets, according to various indicator themes, including forests, biodiversity, energy, atmosphere and climate change, water, sanitation and waste, agriculture and land use, and transport. The indicators are largely indicators of environmental pressures. Pressure indicators, often measured and compiled by official social and economic statistics departments, tend to be the most widely available type of environmental indicator. However, it is equally important to have measures of environmental state and response in order to track MDG 7 progress at the country level. OECD notes the need to select indicators representative of the environment's 'sink capacity', i.e., quality of the environment's 'source capacity' and the quantity of natural resources (OECD 2001b:135).

Table 13 Key sets of environmental indicators

Indicator Theme	Global MDG 7 Framework	UN CSD Indicators Set (UNDESA 2001)[13]	OECD Key Environmental Indicators (OECD 2004)	UK Headline Indicators (UK 2004)	Canada Environmental Indicator Series (Environment Canada 2003)	EEA Core Set Indicators (EEA 2004)	Eurostat Headline Indicators (EC 2005)
Forest	25. Proportion of land area covered by forests	forest areas as a percent of land area; wood harvesting intensity	intensity of use of forest resources	none listed	percentage of ecozone with strictly protected forest area in a selected forest ecozone	none listed	none listed
Biodiversity	26. Ratio of area protected to maintain biological diversity to surface area	abundance of selected key species; protected area as a percentage of total area; area of selected key ecosystems; annual (fish) catch by major species	threatened species; intensity and use of fish resources	percentage change of regional wild bird populations; proportion of woodland and farmland bird species; regional woodland species; regional farmland species	percentage of strictly protected areas	fishing fleet capacity; aquaculture production; status of marine fish stocks; species diversity; designated areas; threatened and protected species	population trends of farmland birds; fish catches outside safe biological limits
Energy	27. Energy use per unit of GDP; 29. Proportion of population using solid fuels	none listed	intensity of energy use	none listed	energy consumption (exajoules)	use of cleaner and alternative fuels; renewable electricity; renewable energy consumption; total energy consumption; total energy intensity; final energy consumption	gross inland energy consumption, by fuel
Atmosphere/ Climate Change	28. Carbon dioxide emissions (per capita) and consumption of ozone-depleting chlorofluorocarbons	GHG emissions; consumption of ozone depleting substances; ambient concentration of air pollutants in urban areas	SOx and NOx emission intensities; indices of apparent consumption of ozone depleting substances; CO_2 emission intensities; index of greenhouse gas emissions	days when air pollution was moderate or higher; CO_2 emissions	change in emissions of toxic substances; SO_2 emissions; GHG emissions; average peak concentrations of ground-level ozone (ppb); average annual ozone levels	atmospheric GHG concentrations; global and European temperature; projections of greenhouse gas emissions and removals and policies and measures; GHG emissions and removals; consumption of ozone depleting substances; exceedance of air quality limit values in urban areas; exposure of ecosystems to acidification, eutrophication and ozone; emissions of primary particulates and secondary particulate precursors; emissions of ozone precursors; emissions of acidifying substances	total greenhouse gas emissions
Water	30. Proportion of population with sustainable access to an improved water source, urban and rural	algae concentration in coastal waters; percentage of total population living in coastal areas; concentration of faecal coliform in freshwater: BOD in water bodies; annual withdrawal of ground and surface water as a percentage of total available water	intensity of use of (fresh) water resources	percentage of river lengths of fair or good chemical quality; percentage of river lengths of fair or good biological quality; percentage of total river lengths of good or fair chemical quality	daily per capita municipal water use (litres per person)	nutrients in transitional coastal and marine waters; nutrients in freshwater; oxygen consuming substances in rivers; use of freshwater resources	none listed
Sanitation and Waste	31. Proportion of population with access to improved sanitation	none listed	municipal waste generation intensities; wastewater treatment connection rates	household waste and recycling; total waste and recycling	percentage of municipal population on sewers with secondary or tertiary treatment	urban wastewater treatment; chlorophyll in transitional, coastal and marine waters; bathing water quality; generation of recycling and packing waste; municipal waste generation;	domestic material consumption
Agriculture/ Land Use	32. Proportion of households with access to secure tenure	area of urban formal and informal settlements; land affected by desertification; use of fertilizers; use of agricultural pesticides; arable and permanent crop land area	none listed	Percentage of new homes built on previously developed land	number of bare-soil days on agricultural land between 1981 and 1996	gross nutrient balance; area under organic farming; progress in management of contaminated sites; land take	none listed
Transport and Traffic	none listed	none listed	none listed	increase on all roads; road traffic by type of vehicle; road traffic by type of road	passenger travel by mode (billions of passenger kilometres)	freight transport demand; passenger transport demand	total energy consumption of transport

Environmental indicators are often proxies; for example, the CFC emissions are proxies to ozone depletion. In general, embedding environmental monitoring efforts within a country's existing systems for producing and managing information and statistics will produce the greatest benefits. For example, integrating MDG monitoring with existing systems for monitoring poverty reduction will yield information with more relevant poverty-environment linkages and is more likely to push towards progress than simply monitoring MDG 7 independently. Indicators can be chosen in a variety of ways.

In selecting indicators for monitoring progress towards MDG 7, each indicator can be systematically assessed against so-called SMART criteria. These criteria apply to both targets and indicators and imply that the indicators (or targets) are SMART—that is, **S**pecific, **M**easurable, **A**chievable, **R**elevant, and **T**rackable.

- The **Specific** criterion ensures that the indicator or target states clearly what is being measured and is sufficiently detailed to measure progress towards the desired result. This criterion also ensures an appropriate level of disaggregation in the relationship between the indicator and the aspect of environmental sustainability to be measured, such as disaggregation by geographic criteria (e.g., ecosystem type) or by other key variables (e.g., income status or gender).
- The **Measurable** criterion verifies that the indicator or target is quantitative in nature and consistent with sound, standardized methods of sampling. At least two data points are needed for quantitative changes to be detectable and verifiable.
- The **Attainable** criterion applies more to targets than to indicators, and helps assess the extent to which targets are realistic and feasible. This involves thinking through the desired outcomes and societal responses, including expected changes from policy or programmatic responses.
- The **Relevance** criterion involves reviewing the indicators to ensure that they capture the established targets and overarching goal, and are of national significance.
- The **Trackable** criterion involves ensuring that indicators can be constructed and monitored over time at reasonable cost and effort. Maximizing this criterion involves using existing sources of data as well as drawing on country capacities (financial and technical) for additional data collection in the medium to long term.

Indicators that fulfil these SMART criteria allow for results-oriented monitoring by providing a baseline for benchmarking performance and identifying progress. A simplified version of the SMART criteria is the OECD's criteria of policy relevance, analytical soundness and measurability (OECD 2001b:133).

8.6 IMPLEMENT MONITORING AND DATA GATHERING SYSTEMS

In recent years, to improve effective evidence-based management of development policies, the challenge has increasingly shifted from collecting data to managing data and to improving the demand for, and effective use of, data. The need is for up-to-date information and knowledge on current conditions. For monitoring and data gathering systems to be effective, they need to be country-led and institutionally anchored to a system of accountability and to have a medium-term perspective. Effective data monitoring and gathering systems ensure enhanced coherence across governments by reducing fragmentation of project and programme monitoring; they focus on indicators and targets that have been agreed on by a variety of stakeholders and that are linked to the policy cycle.

A number of monitoring systems are new and undeveloped and lack institutional capacity and coordination. Institutional arrangements need to be carefully thought out to ensure flow of information, clarity of agency roles and responsibilities, engagement of non-governmental stakeholders, and links among various agencies. One approach is to place monitoring close to the Ministry of Finance so that links with budget are maintained. In most countries, monitoring is not located in the Ministry of Finance but in the statistical bureau, planning agency or president's office.

Monitoring of environmental sustainability is not about centralizing all information gathering and analysis in one institution, as these processes will always involve a network of specialized institutions. Indicators should

13. This current CSD indicator set is currently undergoing revision. An updated set is expected to be released at the end of 2006.

be scientifically reliable and come packaged with a stated measure of variability and description of any bias. More important, they should be consistent with data availability and data collection capacity. Most important, however, is that responsibilities be shared for both current and planned activities; this may require having a secretariat to disperse responsibilities amongst specialized agencies and linked to the national statistics.

Environmental sustainability monitoring has a history marked with project-led data collection by a variety of actors. This has generally not been conducive to a robust system of monitoring, as the review of MDGRs shows. Specific to environmental sustainability monitoring are capacities to relate to mainstream social and economic statistics, the physical and scientific nature of most environmental information systems, and the physical nature that benefits from spatial analysis and mapping. It is clearly vital to know, when using data, how and when data were collected, who collected the data, where there is a potential for bias, how time-periods are defined, and the data collection methodology.

8.7 ANALYSE AND INTERPRET RESULTS

Analytical frameworks that were useful in identifying what to measure are also useful for interpreting the results of measurements (i.e., trends, areas of progress, and challenges) in a systems perspective; assessing the effectiveness of responses; and reversing the loss of a particular resource. The selection of indicators and data gathering are not ends themselves; the indicators must be monitored over time and the results interpreted. Benchmarks are useful to compare the value of an indicator at a given point in time to a reference value (1990 is used as the benchmark for the MDG targets).

Indicators also require context-specific interpretation to capture their full meaning. As OECD has noted, indicators are 'not a mechanical measure of environmental performance… [T]hey need to be complemented with background information, analysis and interpretation' (OECD 2001b:140). Peter Bosch of the European Environment Agency identifies four key questions to ask when interpreting indicator results (EEA 2000):

- What is happening (i.e., state)?
- Why is it happening (i.e., pressures)?
- Are we seeing changes (i.e., pressures)?
- How effective are the responses (i.e., response)?

When interpreting results, it is also helpful to view progress towards MDG 7 in the context of the other seven MDGs. Ensuring environmental sustainability can be seen as helping to maintain and enhance the natural capital on which many of the other goals rely. The purpose of assessing MDG 7 results is to refine the targets and indicators and move towards achieving all of the MDGs.

8.8 COMMUNICATE MONITORING RESULTS

The MDGR is primarily a public affairs document, aimed at creating an environment favourable to action by policy makers and others towards achieving the MDGs. In many ways, the MDGR presents a more simplified and synthetic view of environmental sustainability than many other policy documents, such as the Common Country Assessment, Poverty Response Strategy Paper or National Human Development Report, as it does not focus on an analysis of ways and means to achieve the MDGs.

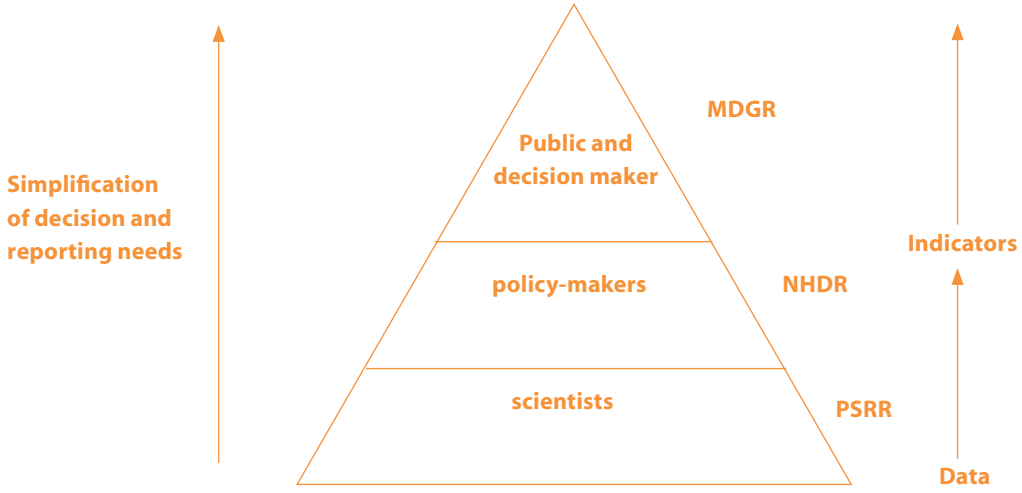
In keeping with the relative simplicity of the MDG 7 reporting format, transparency and inclusiveness are important factors to consider. The work of the Global Reporting Initiative identifies transparency and inclusiveness as central elements in communicating results (GRI 2002:23). Particularly in reporting on environmental sustainability, transparency with respect to the methodologies used to measure and analyse specific components of environmental sustainability is often essential to the reader's ability to interpret the reported results.

Use of graphs, tables and figures can be helpful in communicating the message of progress. For example, China's MDGR uses graphs to show how progress is being made across the country in terms of meeting specific targets such as the proportion of rural people by province and region with sustainable access to safe drinking water and proper sanitation.

Environmental indicators are also useful to communicate results and progress in an easily digestible format. Indicators can help focus the reader's attention on the specific conditions and trends that are most critical for propelling policy debates towards action on environmental sustainability. For conveying messages to a broader audience, indicators that are quite general in nature, often called headline indicators, are used; they are usually limited to fewer than a dozen. Figure 14 illustrates the varying kinds of data and level of detail needed at different levels of discussion.

Frequency of reporting is another important element in any strategy or plan for communicating on progress towards MDG 7. Regular reporting facilitates continuous learning. Since many aspects of environmental sustainability change are only evident over longer time horizons, plans for issuing reports should consider the capacity to generate new information and assuming a mature system should extend well beyond a year or two. Disseminating up-to-date, relevant data and translating it into information and knowledge are an important part of outreach and advocacy efforts.

FIGURE 14 Level of detail needed in reporting and decision-making



9 THE WAY FORWARD

The review of more than 150 MDGRs summarized in this volume shows that policy changes are needed in order to bring about improvements in achieving MDG 7 and to facilitate effective reporting. In particular, policy changes geared towards setting national targets and indicators—not just signing on to global targets—for measuring progress in achieving MDG 7 would help to focus attention on sustainability issues. The review also shows that data constraints can act to keep countries from pursuing such a tailoring approach. Finally, it highlights that there are some excellent examples of countries that are successfully tailoring MDG 7 targets and indicators in ways that allow them to move towards national sustainability goals while also contributing to global goals. What is needed are both improved data at a country level and the opportunity to benefit from one another's experience.

Countries face several kinds of data constraints, including: a lack of baseline data for use as reference points; lack of a time series of data from which comparisons (change) may be determined; confidence that whatever data they do have are necessarily reliable or comprehensive; and finally, the lack of a central database that could be easily accessed and that would facilitate target setting. The establishment of a national system for reporting on environmental sustainability as well as an integrated database would indeed be critical to reporting on the MDGs. Technical expertise to assist in monitoring the databases would also assist effective reporting.

In addition to access to more and higher quality data, countries would benefit from collaboration that allows them to share information and best practices to improve their own national target-setting. It is apparent that many developing countries share similar challenges; cross-fertilization of ideas and strategies among these groups of countries would increase the possibility of making marked progress towards MDG 7. Similar countries—whether by region or economic grouping—would derive tremendous value from collaborating and sharing experiences in national target.

UNDP is well positioned to support countries in monitoring and reporting on progress towards achieving environmental sustainability. UNDP's ability to provide support in this area derives from several key factors, including its strong field presence, integrated approach to development, and designated role as scorekeeper in the UN's Strategy for MDG implementation, supporting and overseeing country-level monitoring of progress. It has already demonstrated success in its support to country offices aimed at making MDG 7 attainable. In Albania, for example, UNDP has supported capacity development for environmental statistics as well as integration of the MDGs into the country's PRSP. This and other examples of UNDP support for good country practices provide useful guideposts for the next generation of MDGRs (Box 12).

Chapter 8 summarized the steps that successful countries are using in developing MDG 7 monitoring and reporting approaches. These steps serve as guidance for countries developing their own approaches to MDG 7 target-setting and monitoring. The steps can be followed in the order presented or they can act as a 'menu' of actions that can be taken to improve monitoring and reporting. UNDP promotes progress towards environmental sustainability in other ways as well.

As one of the three implementing agencies of the Global Environment Facility (GEF), UNDP supports the generation of knowledge on how to progress towards environmental sustainability and contributes to the development of methodologies for examining the impact of GEF projects. Specific guidance is available in the focal areas of biodiversity, international waters and climate change.[14]

In addition to its work with country partners on environmental and sustainability indicators and in the Common Country Assessments and NHDR analytical processes, UNDP supports monitoring of environmental sustainability progress through two main services lines: 1) support to country MDGRs and poverty monitoring and analysis (in the Poverty Reduction Practice), and 2) support to frameworks and strategies for sustainable development (in the Environment and Energy Practice).[15]

Building enhanced country capacity on environmental statistics and indicators has been identified as a priority area for additional technical support. To this end, a global statistical literacy project and training materials developed by the UNDP Poverty Group and implemented through regional actors help link data generating functions to policy-making and national development plans. The project's first phase entails training in pilot countries of all regions across a range of sectors, including environment, leading to efforts to mainstream environmental monitoring into national poverty monitoring systems and reinforcing linkages to policy development.

Another entry point is through UNDP's Poverty and Environment Initiative, which is conducting pilot studies in several countries on poverty-environment indicators and poverty mapping. For example, in Tanzania, UNDP assisted the Office of the Vice President in the development of indicators used to understand better poverty-environment interactions and to monitor poverty reduction linked to environmental management.

In 2006, UNDP initiated an integrated approach to support countries in accelerating progress towards attaining the MDGs. This 'MDG Support Services' is designed to aid countries in preparing MDG-based national development strategies. It pulls together all of UNDP's efforts in support of the MDGs throughout the world, including those of the Millennium Project. It is designed as a mechanism to engage countries in a policy dialogue that should lead to the policy reforms and development outcomes required to ensure that the MDGs are achieved by 2015. It is also a foundation for engaging with other UN agencies, to make the best use of their particular expertise.

The MDG Support Services is a country-led exercise. It offers countries a 'menu' of services that can be adapted to particular national development context depending upon need and demand, along three pillars: 1) MDG-based diagnostics, investment and planning; 2) widening policy options and choices; and 3) strengthening national capacity to deliver. Since environmental sustainability is not only a particular goal (MDG 7) but cuts across all of the MDGs, energy and environment issues must be a central component of the MDG Support Services.

14. For more information, see http://www.gefweb.org under the sections of the web page on results/impacts/procedures.
15. See UNDP 2003 for details of UNDP's service lines.

UNDP brings a substantial body of environment and energy experience in key areas that will be essential to a successful, integrated approach:

- **Working cross-sectorally.** As the analysis of linkages among the MDGs shows, even though the need to work cross-sectorally is advocated by many, it is often not achieved at the operational level. Yet UNDP's Environment and Energy policy and work have significantly advanced the concept of linkages with poverty reduction, gender equality and other development issues, and UNDP is thus strongly positioned to help countries pursue integrated strategies.
- **Linking global and local priorities.** Efforts to achieve the MDGs will be won or lost at the local level. Although countries sometimes have difficulty translating global goals in the environment area to local targets, UNDP has developed a body of best practice in how to do this, and can work with countries in focusing not just on MDG 7 but on environmental sustainability in connection with all of the goals.
- **Developing country capacity.** UNDP has developed a substantial portfolio of projects and experience that integrates energy and environment concerns with other poverty and development issues. This body of experience and knowledge provides a solid basis for developing methodologies and tools to support the MDG Support Services.

Box 12 Examples of best practice in monitoring and reporting

Albania's good practice centres on its efforts at building national ownership of MDG monitoring by ensuring a consultative and participatory process. A national cross-sectoral team was convened, composed of representatives from local NGOs and including members with environmental capacities. This 'national facilitation team' looked at all areas covered by the MDGs, including environmental sustainability targets and indicators. The process culminated in the team's facilitating participatory dialogues to look at monitoring across the MDGs. Noted in Albania's MDGR, released in May 2002, is the integration of the MDGs into other development strategies, including the National Strategy for Socio-Economic Development (i.e., Albania's PRSP) and the medium-term budget programme—efforts supported by UNDP Albania. Also mentioned in the MDGR is the importance of enhanced monitoring capacity, through such projects as the UNDP/National Statistics Office project on statistical capacity building.

Egypt reports on almost all global indicators under MDG 7 and also contains information on carbon dioxide emissions by source. In its first MDGR, issued in 2002, Egypt signalled the intention to combine global MDG targets and indicators with country-specific ones. Its second MDGR, prepared in 2004, aims to facilitate debate on how to localize MDG country reporting and serves as a model in this regard. To date, Egypt has set one country-specific target, to increase the proportion of areas covered by national protectorates to 25 percent (from the current 9 percent) by 2015. Specific challenges flagged in Egypt's MDGR include rapid population growth and limited resources, climate change impacts, and data deficiencies. (See also Box 9.)

Lesotho's efforts to implement MDG 7 are on course, with the most substantial progress in the areas of policy and institutional strengthening. With UNDP support, an environmental coordination institution was established, environmental policy was approved and an environmental law was enacted. One of the country's most pressing environmental challenges is soil degradation and loss, resulting not only from physical features of the landscape (such as a rugged and mountainous terrain, erodible soils, and erratic rainfall with frequent droughts) but also from policy failures (including inefficient land tenure, gender inequities, and lack of integration of environmental concerns at all levels of planning). Thus, Lesotho has adopted relevant, country-specific targets under MDG 7, including reducing the proportion of households without access to land from 33 percent in 2000 to 17 percent by 2015 and reversing annual losses of topsoil from 40 tonnes in 2000 to 20 tonnes. As part of PRSP implementation and MDG reporting, the national statistical agency's capacity to collect, analyse and disseminate data is being strengthened.

Mongolia's MDG process has been consultative and has tailored the MDG 7 indicators to its specific situation. The National Task Force used a participatory process to prepare the MDGR, working closely with the UN Theme Group on Statistics and the MDGs and the Task Force on the PRSP. Line ministries, specialist government organizations and donors were involved in various stages of discussions on the report and commented on draft versions. Mongolia has set country-specific, time-bound targets, such as increasing land area protected to

Box 12, continued

maintain biodiversity from 13.3 percent in 2000 to 30 percent by 2015. One of the country's most pressing environmental problems, land degradation, is not captured by current global MDG 7 indicators. Mongolia hopes to address these issues in its next MDGR; the current report mentions community-based pasture management as a priority for development assistance to improve land conditions locally. The MDGR process also revealed challenges with data collection and gaps, and as a result, the National Statistics Office is undertaking additional surveys and field studies to address these gaps.

Nepal has been exploring ways to track MDG 7 more systematically. One important aspect of this effort is an attempt to link MDG indicators with the PRSP. Nepal is institutionalizing and operationalizing a poverty monitoring and assessment system, with the National Planning Commission taking the lead in identifying a clear, comprehensive set of poverty indicators. To assist this process, UNDP Nepal has suggested some indicators that would mainstream energy and environmental sustainability aspects in the poverty monitoring system and help elucidate the poverty-environment nexus.

Syria was one of the first countries to produce a progress report on implementation of the MDGs. An important recommendation put forward in Syria's MDGR was to strengthen national statistical capacity for monitoring progress towards achieving the MDGs, particularly targets concerning poverty and the environment. Syria aims to strengthen its capacity for environmental monitoring in part through the establishment of an Environmental Information Management System (EIMS) at the Ministry of Local Administration and Environment and its subsidiary directorates. With support from UNDP Syria, national authorities plan to designate environmental and sustainable development indicators and to establish a systematic way of monitoring progress towards them.

Viet Nam has succeeded in an approach that aligns the MDGs with the objectives of existing national development strategies and also establishes country-specific targets under the MDGs. The MDGR contains six quantitative, time-bound, verifiable environmental targets that parallel the global targets of MDG 7. The environmental targets in Viet Nam's PRSP directly match those listed under MDG 7 in the country's MDGR. The targets presented in Viet Nam's National Strategy for Environmental Protection (NSEP) are also aligned with, and often amplify, the targets contained in the MDGR. For instance, one of Viet Nam's country-specific MDG 7 targets is to extend forest cover to 43 percent by 2010. This target is expanded upon in the NSEP via three additional targets, including quantitative targets for reducing areas at risk of desertification, restoration of upstream forests, and rehabilitation of mangrove forests.

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Africa (42)

Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo
Côte d'Ivoire
Dem. Rep. of the Congo
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Namibia
Niger
Nigeria
Rwanda
Sao Tome and Principe
Senegal
Sierra Leone
South Africa
Sudan
Swaziland
Tanzania, United Rep. of
Togo
Uganda
Zambia
Zimbabwe

Arab States (15)

Algeria
Bahrain
Djibouti
Egypt
Jordan
Kuwait
Lebanon
Morocco
Occupied Palestine Territory
Qatar
Saudi Arabia
Syrian Arab Republic
Tunisia
United Arab Emirates
Yemen

Asia and the Pacific (34)

Afghanistan
Bangladesh
Bhutan
Cambodia
China
Cook Islands
East Timor
Fiji
Indonesia
Iran
Kiribati
Lao People's Dem. Rep.
Malaysia
Maldives
Marshall Islands
Micronesia
Mongolia
Myanmar
Nauru
Nepal
Niue
Pakistan
Palau
Papua New Guinea
Philippines
Samoa
Solomon Islands
Sri Lanka
Thailand
Tokelau
Tonga
Tuvalu
Vanuatu
Viet Nam

Europe and CIS (28)

Albania
Armenia
Azerbaijan
Belarus
Bosnia and Herzegovina
Bulgaria
Croatia
Czech Republic
Georgia
Hungary
Kazakhstan
Kosovo
Kyrgyzstan
Latvia
Lithuania
Poland
Republic of Moldova
Republic of Montenegro
Republic of Serbia
Romania
Russian Federation
Slovakia
Slovenia
Tajikistan
The Former Yugoslav Republic of Macedonia
Turkey
Turkmenistan
Ukraine

Latin America and the Caribbean (29)

Argentina
Barbados
Belize
Bolivia
Brazil
Chile
Colombia
Costa Rica
Cuba
Dominica
Dominican Republic
Ecuador
El Salvador
Grenada
Guatemala
Guyana
Haiti
Honduras
Jamaica
Mexico
Montserrat
Nicaragua
Panama
Paraguay
Peru
Saint Lucia
Suriname
Uruguay
Venezuela

Donor Countries (10)

Belgium
Denmark
Finland
Germany
Netherlands
Norway
Portugal
Sweden
Switzerland
United Kingdom

I. SAHARAN AND SUB-SAHARAN AFRICA

(a) Saharan Africa

1. Chad
2. Mauritania
3. Niger

(b) Eastern Africa

4. Burundi
5. Djibouti
6. Kenya
7. Rwanda
8. Tanzania
9. Uganda

(c) Central Africa

10. Gabon

(d) Western Africa

11. Benin
12. Burkina Faso
13. Cameroon (3rd)
13.1 Cameroon (2nd)
13.2 Cameroon (1st)
14. Gambia
15. Ghana
16. Guinea
17. Ivory Coast
18. Senegal (2nd)
18.1 Senegal (1st)
19. Togo

(e) Southern Africa

20. Botswana
21. Comoros
22. Madagascar
23. Mauritius
24. Mozambique
25. Namibia
26. Zambia

II. NORTH AFRICA, MIDDLE EAST AND ARAB STATES

(f) North Africa

1. Algeria
2. Egypt
3. Morocco
4. Tunisia

(g) Middle East and Arab States

5. Bahrain
6. Kuwait
7. Lebanon
8. Syrian Arab Republic
9. Yemen

III. SOUTH AND EAST ASIA AND THE PACIFIC

(h) SOUTH AND EAST ASIA

10. Bhutan
11. Cambodia (2nd)
11.1 Cambodia (1st)
12. China
13. Indonesia
14. Philippines
15. Thailand
16. Viet Nam (3rd)
16.1 Viet Nam (2nd)
16.2 Viet Nam (1st)

(i) Pacific Islands

IV. LATIN AMERICA AND CARIBBEAN

(j) Central America and Caribbean

17. Guatemala
18. Haiti
19. Honduras
20. Nicaragua
21. Panama

(k) South America

48. Argentina
49. Bolivia
50. Brazil
51. Guyana
52. Paraguay

V. EASTERN EUROPE AND CENTRAL ASIA

(l) Eastern and Central Europe and the Balkans

53. Albania
54. Bosnia and Herzegovina
55. Bulgaria
56. Croatia
57. Poland
58. Romania
59. Ukraine

(m) Central Asia

60. Afghanistan
61. Armenia
62. Azerbaijan
63. Georgia
64. Kyrgyzstan
65. Mongolia
66. Tajikistan
67. Turkmenistan

VI. HIGH-INCOME OECD

(n) Western Europe

68. Denmark
69. Finland
70. Sweden

(o) North America

(p) Pacific

ANNEX C MDG 7 MONITORING AND REPORTING BY COUNTRY GROUPINGS

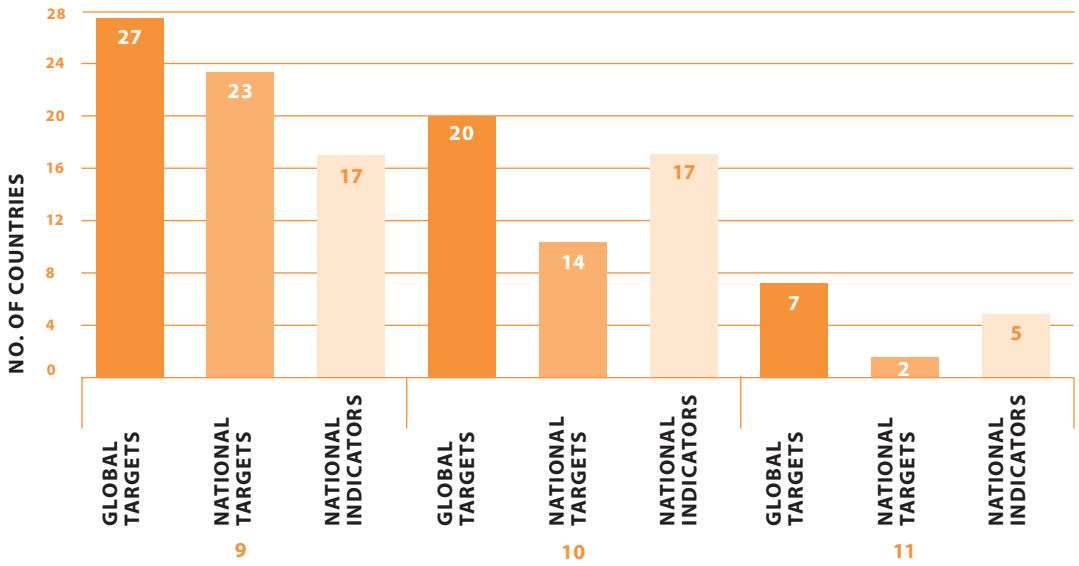
Because it is useful for similar countries to learn from one another's experience, the review of MDG 7 reporting examined the reports by country groupings. The 158 countries were divided into the following mutually exclusive groups—based on the UNSD country classifications (see Table C-1 at the end of this annex for the list of countries in each group):

- developed countries (28 countries);
- developing and landlocked developing countries (LLDCs) (63 countries); and
- least developed countries (LDCs) and small island developing states (SIDS) (68 countries).

DEVELOPED COUNTRIES

The twenty-eight developed countries that report on MDG 7 are from Europe, including the Commonwealth of Independent States. All but one country (Hungary) reported on Target 9. Twenty-three countries have tailored targets and 17 report on country-specific indicators (Figure C-1). Only Albania and FYR Macedonia report on all indicators for Target 9 (although FYR Macedonia does not report on consumption of ODS, Indicator 28b). Other country-specific indicators include reducing road traffic intensity (Czech Republic) and measures to reduce pollution from stationary sources (Lithuania and Ukraine). Russia monitors the proportion of CO2 emissions from fuel combustion.

FIGUREC-1 **Developed countries: targets and indicators**



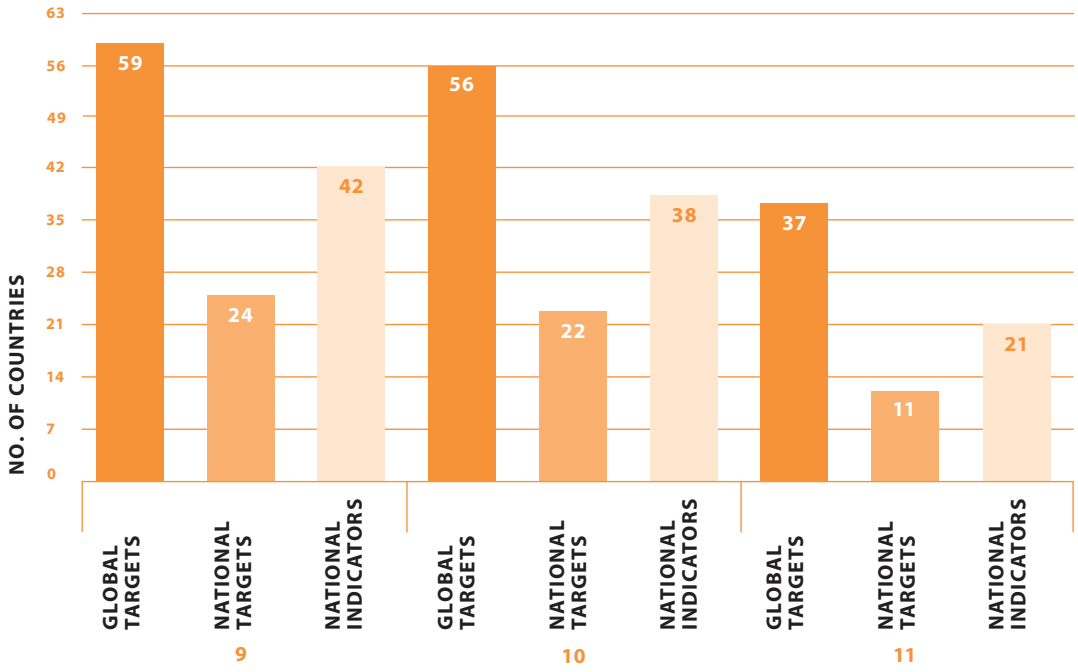
Twenty developed countries reported on Target 10 global indicators. Of these, 14 set country-specific targets and 17 set country-specific indicators (Figure C-1), with most focused on supply of good quality water and the infrastructure to support water supply. Some countries focus on wastewater treatment and solid waste generation; for example, Bulgaria reported on population served by wastewater treatment plants and waste collection systems and set 2015 targets to increase these services.

Only seven developed countries reported on Target 11, access to secure tenure (Figure C-1). Bosnia and Herzegovina, in keeping with the PRSP, has tailored the target to decrease the number of demined fields by 80 percent by 2015. Tailored targets are set by two countries and indicators are set by five countries; these range from monitoring the amount of average living space (Albania) to the percentage of dwellings that do not meet normal living standards (FYR Macedonia) and the basic infrastructure for housing (Slovakia).

DEVELOPING COUNTRIES AND LLDCs

The 63 developing countries and LLDCs that report on MDG 7 are mainly from North Africa, sub-Saharan Africa, Latin America, south-central Asia, south-eastern Asia and western Asia.

FIGUREC-2 Developing countries and LLDCs: targets and indicators



A majority (59) of developing and landlocked developing countries are successful in reporting on global indicators to monitor progress on Target 9; only 24 countries have tailored targets and 42 report on indicators (Figure C-2). Target 9 indicators include percentage of land cultivated and tilled (Botswana), exports of sawn timber (Cameroon), number of registered conservancies (Namibia), lead concentration in the air (Jordan), environmental spending (Bolivia, China, Peru), percentage of clean rivers (Malaysia), waterlogging and soil salinity (Pakistan), and land reclamation affected by desertification (Chile).

With regard to Target 10, 56 out of 63 countries report on the global indicators, 22 countries tailor targets to national needs, and 38 countries report on indicators to measure progress in achieving this target (Figure C-2). Reported indicators include the annual surface and ground water totals (South Africa), urban growth rate (Zimbabwe), water in danger of pollution (Tunisia), percentage of deaths related to water-borne diseases (East Timor), availability of water and sanitation by income group (El Salvador), and number of cities with water cleaning appliances or wastewater treatment (Bahrain, Botswana, Bulgaria, United Arab Emirates, Viet Nam).

Thirty-seven countries report on Target 11, with 11 countries tailoring targets and 21 countries having national or country-specific indicators (Figure C-2). Specific indicators for Target 11 include supply of facilities in houses (Kazakhstan); number and type of natural disasters registered per year (Tajikistan); percentage of population with access to modern infrastructure, utilities and services (South Africa); number of informal family settlers (Philippines); infant mortality and education rate in slum areas (Sri Lanka); and investment in housing (Peru).

In terms of whether countries are making progress or regressing, the results for developing countries and LLDCs are mixed. With respect to access to water and sanitation—which these countries consider as essential to sustainable livelihoods—39 countries report progress for Indicator 30 (water) and 36 countries report progress for Indicator 31 (sanitation), as shown in Figure C-3. However, they show little progress on the other indicators and even some decline on Indicator 28a (CO_2 emissions) and Indicator 25 (forest cover).

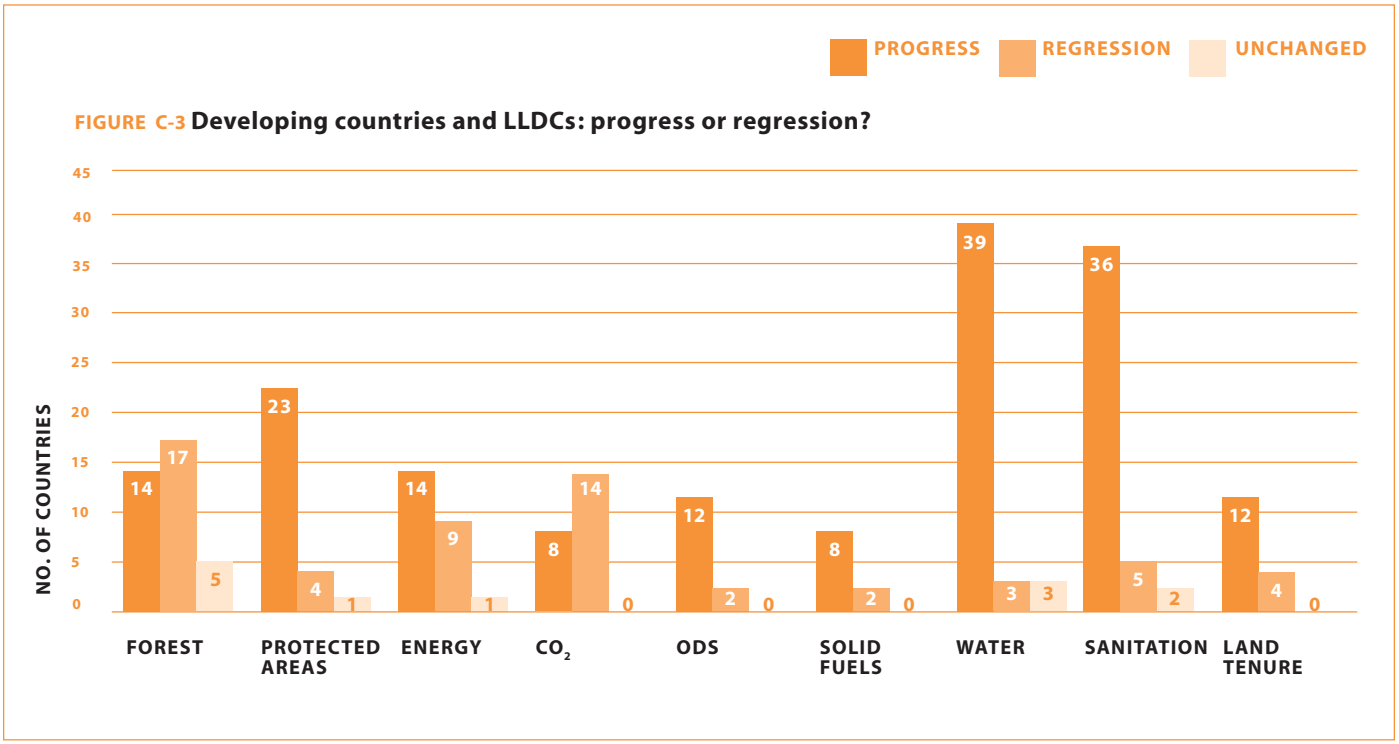


FIGURE C-3 **Developing countries and LLDCs: progress or regression?**

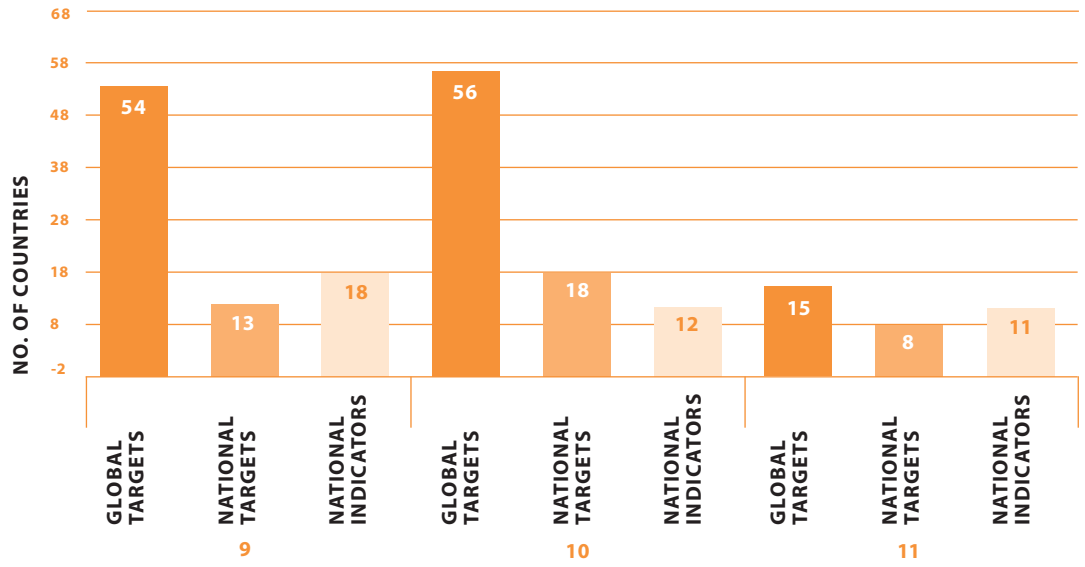
LDCs AND SIDSs

The 68 least developed countries and small island developing states reporting on MDG 7 targets and indicators are mainly from the Caribbean, the Pacific, Africa, Indian Ocean and Arab Regions.

Among SIDS and LDCs, 54 countries reported on Target 9; of these, 13 countries tailored targets and 18 countries have developed specific indicators (Figure C-4). The majority of the targets relate to forest cover and protected areas and some include agriculture. Country-specific indicators percentage of households with no cooking fuels (Palau); percentage of population living along the coastline (Bahrain); percentage of land classified as drylands (Tanzania); increase in fish catch (Cape Verde); fish catch as a percentage of exports (Mauritania); and percentage of land for agriculture (Belize, Guinea, Yemen) and available for irrigation (Guinea).

Fifty-six SIDS and LDCs reported on Target 10; 18 of these tailored targets and 12 report on country-specific indicators (Figure C-4). Global targets by and large encompass improvement in the availability of water and sanitation services and national targets focus on the distribution of these services to rural and urban areas. Examples of country-specific indicators include percentage of sewage with tertiary treatment (Bahrain), rate of depletion of water sources (Yemen), the removal of arsenic from water supplies (Bangladesh), and reduction in the incidence of water-borne diseases (Nepal).

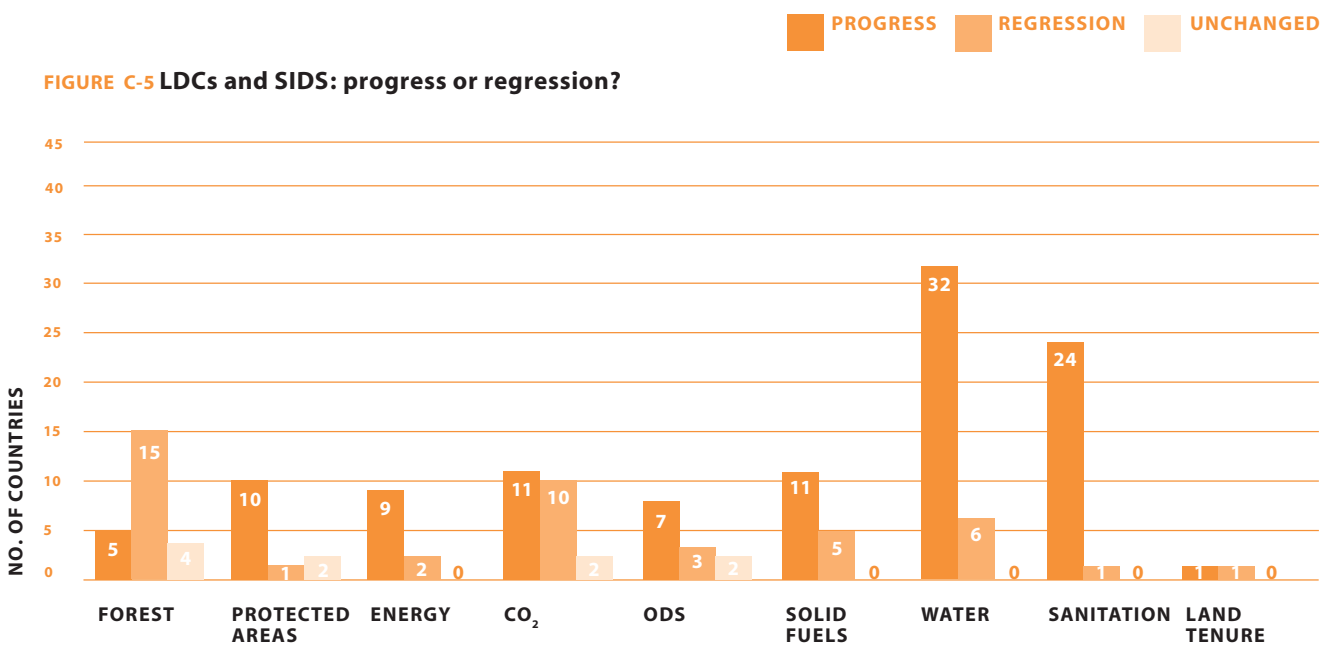
FIGURE C-4 **LDCs and SIDS: targets and indicators**



Only 15 countries in this group reported on Target 11 (access to secure tenure) and 8 had national targets. However, 11 SIDS and LDCs set country-specific indicators that include improved access to health services (Angola), percentage of the population with legal title to land (Gabon), the number of female-headed households (Uganda), and the number of owner-occupied homes (Barbados).

In terms of whether SIDS and LDCs are making progress or regressing, the greatest amount of progress is evident in improved access to water (with 32 out of 38 countries reporting positive change), as shown in Figure C-5. Access to sanitation shows similar progress, with 24 out of 25 countries reporting improvement. Indicator 25 (forest cover) shows the most regression, with 15 out of 24 countries indicating negative change.

FIGURE C-5 **LDCs and SIDS: progress or regression?**



SUMMARY OF FINDINGS

Developing countries and LLDCs report under each of the global MDG 7 targets at a higher rate than either developed countries or LDCs and SIDS. However, developed countries tailor targets on reversing the loss of environmental sustainability (Target 9) and increasing access to water and sanitation (Target 10) more than do the other two groups. Overall, by percentage, LDCs and SIDS countries report on environmental sustainability and set country specific targets and indicators less than the other two groups.

Compared with the global assessment of target setting, developed countries set far more targets to reverse the loss of environmental sustainability, particularly to decrease CO_2 and GHG emissions and increase renewable energy use and energy efficiency. This group set the least number of targets on increasing access to secure tenure (Target 11); however, this can be explained by the fact that donor countries, which are included in this group, did not report on slums. The low number of targets set by SIDS and LDCs for Targets 9 and 10 brings down the global average, but they have set an equal number of targets as developing countries for improving slum conditions.

In terms of progress made, developed countries report only progress for protected areas, energy use, ODS emission, and access to water and sanitation. For the other two groups, forest cover is the only indicator for which more countries report regression than progress, and both groups report significant progress in increasing access to water and sanitation. Overall, developing countries and LLDCs demonstrate more progress in achieving MDG 7 than the other two groups—apart from Indicator 29, where more SIDS and LDCs show a decrease in the use of solid fuels.

Table C-1 Country groupings

DEVELOPED COUNTRIES

Albania, Belarus, Belgium, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, European Commission, Finland, Germany, Hungary, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russia, Slovakia, Slovenia, Sweden, Switzerland, Macedonia, Ukraine, United Kingdom

DEVELOPING COUNTRIES AND LLDCs

Argentina, Algeria, Armenia, Azerbaijan, Bolivia, Botswana, Brazil, Cameroon, Chile, China, Colombia, Costa Rica, Côte d'Ivoire, Djibouti, East Timor, Ecuador, Egypt, El Salvador, Gabon, Georgia, Ghana, Guatemala, Honduras, Indonesia, Iran, Jordan, Kazakhstan, Kenya, Kosovo, Kuwait, Kyrgyzstan, Lebanon, Malaysia, Mexico, Mongolia, Montenegro, Morocco, Namibia, Nicaragua, Nigeria, Palestine, Panama, Pakistan, Paraguay, Peru, Philippines, Qatar, Saudi Arabia, Serbia, South Africa, Sri Lanka, Syria, Swaziland, Tajikistan, Thailand, Tunisia, Turkey, Turkmenistan, United Arab Emirates, Uruguay, Venezuela, Vietnam, Zimbabwe

SIDs AND LDCs

Afghanistan, Angola, Bangladesh, Bahrain, Barbados, Belize, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Cook Islands, Cuba, Democratic Republic of the Congo, Dominica, Dominican Republic, Ethiopia, Fiji, Gambia, Grenada, Guinea, Guinea Bissau, Guyana, Haiti, Jamaica, Kiribati, Lao People's Democratic Republic, Liberia, Madagascar, Malawi, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia, Montserrat, Mozambique, Myanmar, Nauru, Nepal, Niger, Niue, Palau, Papua New Guinea, Republic of Congo, Rwanda, Saint Lucia, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Sudan, Suriname, Togo, Tokelau, Tonga, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen, Zambia

ANNEX D CHECKLIST OF QUESTIONS FOR USE IN OPERATIONALIZING MDG 7 AT COUNTRY LEVEL

1. How has the concept of environmental sustainability been embraced in your country?
2. What is your country's vision for environmental sustainability?
3. Do you have a national environmental action plan?
4. What targets are specified in your national development plans, including the PRS or sector plans?
5. Has your country used the national communications on climate change (Multilateral Environmental Agreements) to establish national targets? Has your country tapped into other MEA commitments to set national priorities such as the Convention on Biological Diversity National Biodiversity Action Plan or the Climate Change Convention on Desertification?
6. What environmental phenomena are already being measured on a regular basis?
7. What data is available in country and where?
8. Are data being collected systematically through a national system of statistics?
9. Do the national statistics adequately portray environmental conditions?
10. Where are the data gaps?
11. What happens if data is not available?
12. What mechanisms are in place for exchange and consolidation of data?
13. What data is provided to global data banks?
14. Is an analytical framework used to aid in determining what targets to monitor?
15. How are people benefiting from environmental assets?
16. How is development affecting the ecosystem? (i.e. their activities as drivers or pressures)
17. How vulnerable are people and the social systems to environmental disturbances, such as pollution and climate change?
18. How well are the people, including current and future generations (i.e. the impact of the environment on people)
19. How effective have responses been to reverse the loss of a particular environmental resource?
20. To what extent does the country cooperate with other countries to manage common environmental resources, such as waterbodies?
21. To what extent do institutions foster effective responses to environmental challenges?
22. How have governments implemented and integrated the principles of sustainable development in development policies?
23. Are we on track towards ensuring environmental sustainability by 2015 in the country?
24. What entry points for improving environmental performance can be identified in other development sectors?

ANNEX E SUMMARY OF ANALYSIS OF 158 MDG 7 REPORTS REVIEWED

MDG 7 Ensuring Environmental Sustainability Targets and Indicators

Target 9 – Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

25. Proportion of land area covered by forest (FAO)
26. Ratio of area protected to maintain biological diversity to surface area (UNEP-WCMC)
27. Energy use (kg oil equivalent) per $1 GDP (PPP) (IEA, World Bank)
28. Carbon dioxide emissions per capita (UNFCCC, UNSD) and consumption of ozone-depleting CFCs (ODP tons) (UNEP-Ozone Secretariat)
29. Proportion of population using solid fuels (WHO)

Target 10 – Halve , by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation

30. Proportion of population with sustainable access to an improved water source, urban and rural (UNICEF-WHO)
31. Proportion of population with access to improved sanitation, urban and rural (UNICEF-WHO)

Target 11 – By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

32. Proportion of households with access to secure tenure (UN-HABITAT)

The complete analytical summary table of 158 MDG 7 country reports can be found on the UNDP website: **www.undp.org/fssd/crosscutting/sustdevmdg.**

The following are elements extracted from the 158 MDG country reports on ensuring environmental sustainability:

- **Modified and Country-Specific Targets** – Information denotes whether each country reported under the global MDG targets, modified the targets, developed country-specific targets, used other international or national targets or provided no information.
- **Indicators Reported** – Each indicator for which a country provided quantitative data was recorded. Dates specified next to each indicator specifies the year(s) from which data was reported.
- **Databanks or Data Sources Used** – Bolded text refers to the Global MDG Indicator Data Provider/ Agency from which a country gathered data and plain texts are national data sources. The UN Statistics Division houses the Millennium Indicator Database and provides information on the millennium data series and background series applied to each indicator.
- **Challenges and Priorities** – Specific national challenges and priorities for monitoring and making progress towards environmental sustainability were pulled from each MDGR.

ANNEX F ADDITIONAL RESOURCES ON THE MDGS AND MDG 7

MDG GENERAL

Human Development Report on Millennium Development Goals: a Compact among Nations to End Human Poverty[1] includes a specific chapter on MDG 7, Chapter 6 Public Policies to Ensure Environmental Sustainability.

The UN 2005 World Summit Website includes follow up and main documents and resolutions, including the World Summit Outcome Document[2]; the Report by the Secretary-General[3]; and follow up to the outcomes of the Summit[4].

United Nations MDG Report[5] is an annual assessment of progress towards the MDGs.

UNDG website contains MDG Country and Regional Reports, MDGnet, and MDG Resources.

UNDP website on the MDGs provides information on the MDG targets and indicators, the Millennium Campaign, an outreach effort to inspire and encourage MDG efforts, progress, good practices and UNDP's role in supporting the MDGs.

UN Millennium Project Website offers reports on the way forward in achieving the MDGs, tools for preparing MDG-based poverty reduction strategies and reports of the UN Millennium Project Task Forces, including:

- Report of the Environment Task Force[6]
- Report of the Water and Sanitation Task Force[7]
- Report of the Slum Dwellers Task Force[8]

World Bank MDG website provides an overview of the MDGs, MDG-related projects, and regional and global progress towards the MDGs.

MDGS AND ENVIRONMENT

Convention on Biological Diversity website includes decisions from the Conference of the Parties and links between its targets and implementation and achieving MDG.

The Millennium Ecosystem Assessment[9] explores the consequences of ecosystem change for human well-being a nd actions needed to enhance the conservation and sustainable use of ecosystems and their contributions to human well-being.

Water Governance for Poverty Reduction[10] highlights key water related challenges, experiences and examples of successful approaches, and policy recommendations policy.

World Resources 2005[11] includes a special section on the MDGs and concepts of environmental income and pro-poor environmental governance.

1. UNDP. 2003. *HDR on Millennium Development Goals: A Compact Among Nations to End Human Poverty*. New York.
2. UNGA. 2005. *World Summit Outcome.* A/RES/60/1.
3. UNGA, 2005. *In larger freedom: towards development, security and human rights for all.* A/59/2005.
4. UNGA. 2005. *SG's Report on Implementation of Decisions from the 2005 World Summit Outcome for Action*. A/60/430.
5. United Nations. 2006. *MDG Report.* New York.
6. UN Millennium Project. 2005. *Environment and Human Well-being: a practical strategy*. Task Force on Environmental Sustainability. Earthscan, London.
7. UN Millennium Project. 2005. *Health Dignity and Environment: What will it take?*. Task Force on Water and Sanitation. Earthscan, London.
8. UN Millennium Project. 2005. *A Home in the City. Task Force on Improving the Lives of Slum Dwellers*. Earthscan, London.
9. Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC.
10. UNDP. 2004. *Water Governance for Poverty Reduction: Key Issues and the UNDP Response to Millennium Development Goals*. New York.
11. WRI, UNDP, UNEP and World Bank. 2005. *World Resources 2005: The Wealth of the Poor—Managing Ecosystems to Fight Poverty*. Washington, DC: WRI.

MDGS AND ENERGY

Energy Challenge for Achieving the MDGs[12] presents the collective view of the UN agencies, programmes and organizations about the importance of energy for achieving the MDGs.

Energy for the Poor[13] shows how energy relates to each of the MDGs.

Energy Services for the MDGs[14] underscores the importance of energy services for the MDG agenda.

Expanding Access to Modern Energy Services[15] is about making progress towards achieving the Millennium Development Goals by expanding access to modern energy services.

MDGS AND POVERTY REDUCTION STRATEGIES

The Environment-poverty nexus[16] distils the links between environmentally sustainable development and poverty reduction and the achievement of the MDGs.

PRS and the MDG on Environmental Sustainability: Opportunities for Alignment[17] notes that major efforts are needed to raise the level of attention to MDG 7 in the PRSPs.

Preparing National Strategies to Achieve the MDGs: a handbook[18] provides an introduction to and resource for developing national MDG strategies.

ENVIRONMENTAL AND SUSTAINABILITY INDICATORS AND INDICES

Developing and Applying Poverty Environment Indicators[19] focuses on the design and implementation of a poverty-environment information system.

Environment and Sustainable Development Indicator for Canada3[20] includes a set of national indicators of natural and human capital.

OECD Environmental Indicators[21] presents key environmental indicators endorsed by OECD Environment Ministers and major environmental indicators from the OECD Core Set. Additional information on OECD core indicators found in the Environmental Data Compendium[22].

2005 Environmental Sustainability Index and 2006 Environmental Performance Index—joint production of Yale University and Columbia University—tracks national environmental results on a quantitative basis, measuring proximity to an established set of policy targets using the best data available.

The European Commission Eurostat Sustainable Development Indicators framework lists indicators on climate change and energy, consumption patterns, and natural resource management and transportation.

GEO Year Book 2006[23] is UNEP's third annual survey of the changing global environment produced and includes a core set of GEO indicators.

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12. UN-Energy. 2005. *The Energy Challenge for Achieving the MDGs*. UN.
13. DFID. 2002. *Energy for the Poor: Underpinning the Millennium Development Goals*. London.
14. Modi, V., S. McDade, D. Lallement, and J. Saghir. 2006. *Energy Services for the Millennium Development Goals*. New York: UNDP, UN Millennium Project, and World Bank.
15. UNDP and Columbia University. 2006. *Expanding Access to Modern Energy Services: Replicating, Scaling Up and Mainstreaming at the local level*. New York.
16. Jahan, Selim and Alvaro Umana. 2003. *The Environment-poverty nexus*. UNDP Development Policy Journal. Vol: 3, pp.53-70.
17. World Bank. 2003. *Poverty Reduction Strategies and the Millennium Development Goal on Environmental Sustainability: Opportunities for Alignment*. World Bank Environment Department.
18. UN Millennium Project. 2005. *Preparing National Strategies to Achieve the MDGs: a handbook*, New York.
19. Reed, D. and Pradeep Tharakan 2004. *Developing and Applying Poverty Environment Indicators*. WWF.
20. NRTEE. 2003. *Environment and Sustainable Development Indicator for Canada*. State of the Debate on the Environment and the Economy.
21. OECD. 2006. *Environment at a Glance: OECD Environmental Indicators*. OECD Publishing, London.
22. OECD. 2004. *Environmental Data Compendium*. London.
23. UNEP. 2006. *GEO Year Book: An overview of our changing environment*. UNEP.

IISD hosts information on sustainability indicators in its Global directory to indicator initiatives, Dashboard of Sustainability, and Consultative Group on Sustainable Development Indicators.

Indicators of Environment and Sustainable Development[24] provides an overview of the technical and practical aspects of the work on indicators, including experiences and lessons learnt.

The World Bank produces an annual Little Green Data Book, a collection of information from the World Development Indicators and its accompanying CD-ROM.

Poverty-Environment Indicators[25] identifies indicators that can be used to assess poverty-environment interactions.

World Development Indicators 2006[26] lists more than 900 development indicators.

MDG INDICATORS METHODOLOGIES

Global Footprint Network website provides practical applications and resources for promotion and understanding of the Ecological Footprint, including National Footprint Accounts.

Good Practice in the Development of PRSP Indicators and Monitoring Systems[27] includes experiences and examples to draw on for improving the way PRSPs handle monitoring and indicators.

Improving Statistical Capacity and MDG Literacy[28] assists with improving data accessibility, statistical literacy and capacity, and evidence-based advocacy.

Indicators for Monitoring the Millennium Development Goals[29] includes definitions, rationale, method of computation, data collection and source, periodicity of measurement, gender issues and references for each of the MDGs.

The Living Planet Reports are produced by WWF for periodic updates on the state of the world's ecosystems.

A proposed approach to environment and sustainable development indicators based on capital[30] provides a framework for establishing sustainable development indicators centred on the concept of capital and focused on the economy as the object of sustainability.

GUIDANCE NOTES AND MATERIALS TO AID IN REPORTING

A Review of International Environmental Analysis[31] reviews and catalogues key features of country-level environmental analytic tools.

Globalis is an interactive map tool, which allows vital statistics, including those used in MDG reporting, to be visually displayed at the global, regional or national levels.

The Human Development Report 2005 on international cooperation[32] provides a comprehensive analysis on how to resolve challenges related to development assistance, international trade and security in making progress.

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24. Segnestam, L. 2003. *Indicators of Environment and Sustainable Development: Theories and Practical Experience*. Environmental Economics Series Paper, No. 89, The World Bank.
25. Shyamsundar, P. 2002. *Poverty Environment Indicators*. Environmental Economic Series, No. 84, World Bank.
26. World Bank. *World Development Indicators 2006*. IBRD and The World Bank, Washington DC.
27. Booth, D. and Lucas, H. 2002. *Good Practice in the Development of PRSP Indicators and Monitoring Systems*. Overseas Development Institute. ODI.
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29. UN. 2003. *Indicators for Monitoring the Millennium Development Goals: Definitions, Rationale, Concepts and Sources*. UNDG, New York.
30. NRTEE, 2001. *A Proposed Approach to Environment and Sustainable Development Indicators*
Based on Capital. *The National Round Table on the Environment and the Economy's Environment and Sustainable Development Indicators Initiative*.
31. Segnestam, L., Persson, A., Nilsson, M., Arvidsson, A., and Ijjasz, E. 2003. *Country-Level Environmental Analysis. A Review of International Experience*. Environment Strategy Series Number 8. World Bank.
32. UNDP. *Human Development Report 2005: International cooperation at a crossroads: Aid, trade and security in an unequal world*. New York.

Investing in Development: a practical plan to achieve the MDGs[33] outlines practical investment strategies and approaches to assist countries in achieving the MDGs.

The MDGs and Local Processes[34] focuses on local processes that can deliver the MDGs with regard to poverty reduction and sustainable resource use.

Reporting on the MDGs at the Country Level Guidance Note[35] highlights the main issues that are likely to arise when preparing a country-level MDG report/review.

The UNDG MDG Toolkit is a five-module approach to strengthen capacity within UN Country Teams, including a module on developing MDG statistical capacity.

GLOBAL MDG DATABASES

UN Statistics Millennium Indicator Database links to global MDG framework indicators:

MDG 7 INDICATORS		DATABASE
25	Proportion of land area covered by forests	FAO
26	Ratio of area protected to maintain biological diversity	UNEP-WCMC
27	Energy use per $1 GDP	World Bank
28	Carbon dioxide emissions and consumption of ozone-depleting CFCs	UNFCCC
29	Proportion of population using solid fuels	WHO
30	Proportion of population with sustainable access to improved water source	UNICEF-WHO
31	Proportion of population with access to improved sanitation	UNICEF-WHO
32	Proportion of households with access to secure tenure	UN-Habitat

OTHER GLOBAL ENVIRONMENT DATABASES

The World Resources Institute Earthtrends offers a comprehensive online collection of information regarding the environmental, social and economic trends.

FAO databases on fisheries, forests, and land use are available on Fishstat Plus, FAOStat, Global Forest Resources Assessment, State of the World's Forests, and Global Terrestrial Observing System (FAO).

GEMStat United Nations Global Environment Monitoring System (GEMS) Water Programme is a searchable database of global water quality data and statistics.

UNEP GEO Data Portal is an online database of more than 450 different variables.

Statistics on energy can be found on the International Energy Agency's statistical database website and includes the World Energy Outlook[36], a source for medium to long-term energy market projections and analysis.

UNDESA website contains a number of statistical databases including the UN Common Database, which has information on environment and energy statistics.

33. UN Millennium Project. 2005. *Investing in Development: A practical plan to achieve the MDGs*. New York.
34. Satterthwaite, D. (Ed.) 2003. *The Millennium Development Goals and Local Processes: Hitting the Target or Missing the Point?*. IIED.
35. UNDG. 2003. *Reporting on the Millennium Development Goals at the Country Level: Second Guidance Note.* 2nd MDGR Guidance Note.
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www.undp.org/energyandenvironment

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