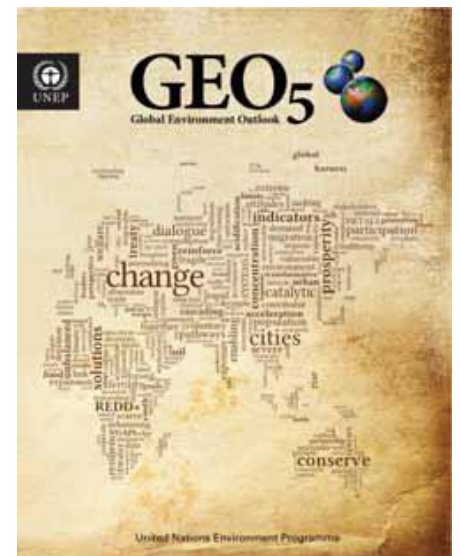Thematic Focus: Environmental governance

Measuring progress - environmental goals and gaps

Over the last few decades, a great number of environmental goals and objectives have been adopted and a few success stories can be told. However, despite the growing body of norms and rules, the overall global environmental situation continues to deteriorate. The international community, having made very uneven progress towards the stated goals, needs to redefine the approach to improve the state of the environment and foster sustainable development.

Why is this issue important?

If we measured the world's response to environmental challenges solely by the number of treaties and agreements that have been adopted, then the situation looks impressive. Over 500 international environmental agreements have been concluded since 1972, the year of the Stockholm Conference and the establishment of the United Nations Environment Programme (UNEP). These include landmark conventions on issues such as trade in endangered species, hazardous wastes, climate change, biological diversity and desertification. Collectively, these reflect an extraordinary effort to install the policies, aims and desires of countries world-wide to achieve sustainable development. Yet despite the impressive number of legal texts and many good intentions, real progress in solving the environmental challenges themselves has been much less comprehensive, a point clearly underlined in the fifth Global Environment Outlook (GEO-5) report (UNEP 2012a) and its companion publication "*Measuring Progress: Environmental Goals and Gaps*" (UNEP 2012b). The vast majority of goals are found to be 'aspirational' in nature and lack specific targets, which generate obvious difficulties in measuring progress towards them. In addition, many goals are not supported by adequate data that can be used to measure progress, global freshwater quality being one stark example. It is clear that if agreements and conventions are to achieve their intended purpose, the international community needs to consider specific and measurable goals when designing such treaties, while organizing the required data gathering and putting in place proper tracking systems from the outset.

Global Environmental Goals

In a complex and fragmented system of rules, the first challenge is to have a clear understanding of what environmental goals do already exist. For this purpose, a set of over 300 global environmental goals (GEGs) was compiled by UNEP in cooperation with the Swiss government, resulting from an extensive consultation among independent experts and a review by government representatives (UNEP 2010). The goals are drawn from existing global and regional multilateral environmental agreements, such as the Vienna

Convention on the Protection of the Ozone Layer and the Montreal Protocol, the Convention on Biological Diversity (CBD), the Basel Convention on Transboundary Movements of Hazardous Waste, the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol, as well as the United Nations Convention on the Law of the Sea (UNCLOS). Goals are also derived from non-legally binding instruments such as the 1972 Stockholm Declaration, the 1992 Rio Declaration and Agenda 21, the 2002 Johannesburg Plan of Implementation, the Millennium Summit Declaration as well as outcomes of conferences convened under the auspices of specialized agencies.

GEO-5 analyzed the set of goals and identified and assessed the 90 most important and appropriate ones for analysis i.e. specifically those geared to respond to some of the world's most pressing environment and development challenges. It also identified important data gaps for measuring progress and where possible an assessment of progress was provided, based on the best available scientific findings.

Can we witness any progress to date?
Despite some notable successes, the international community has made very uneven progress in achieving global environmental goals and improving the state of the environment. There has been little or no progress or further deterioration on about half of the goals and objectives analyzed under the GEO-5 assessment. Environmental goals currently being addressed but with least success include:

- *Climate change.* Atmospheric concentrations of greenhouse gases continue to increase to levels that are likely to push global temperatures to more than 2°C above the pre-industrial average; (Figure 1)
- *Indoor air pollution.* Indoor air pollution from particulate matter (PM) continues to have major health impacts, particularly on women and children;
- *Extinction risk of species.* The world failed to reach the Millennium Development Goal (MDG) target of reducing the rate of biodiversity loss by 2010 (UN 2000); (Figure 2)
- *Extent and condition of natural habitats*, especially coral reefs and wetlands. The condition and extent of natural habitats continue to decline, with some habitats experiencing declines in extent of 20% or more since 1980 (Butchart et al. 2010);
- *Invasive alien species*. The numbers of invasive alien species continue to increase, but there are significant gaps in knowledge;
- *Access to food*. In 2010 about one-sixth of the world's population, an estimated 925 million people, were undernourished (FAO 2010);
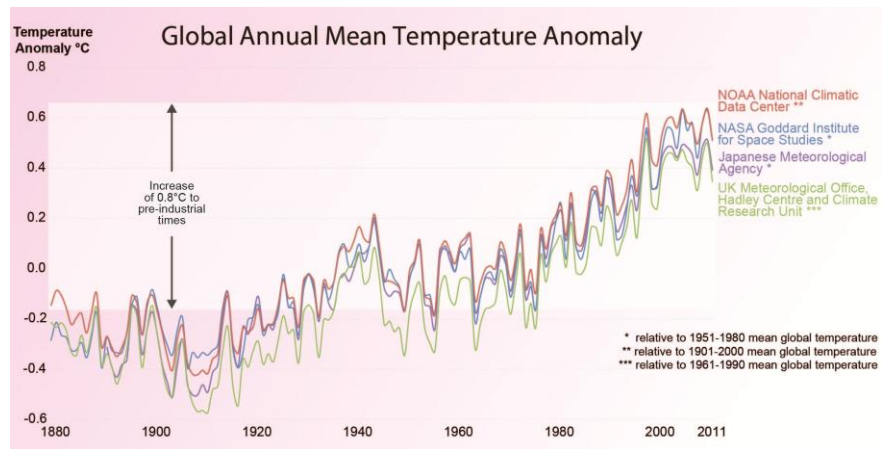

Figure 1: Global mean temperatures are on the rise. Source: NASA 2011, NOAA 2011, UK MetOffice 2011 and JMA 2011.
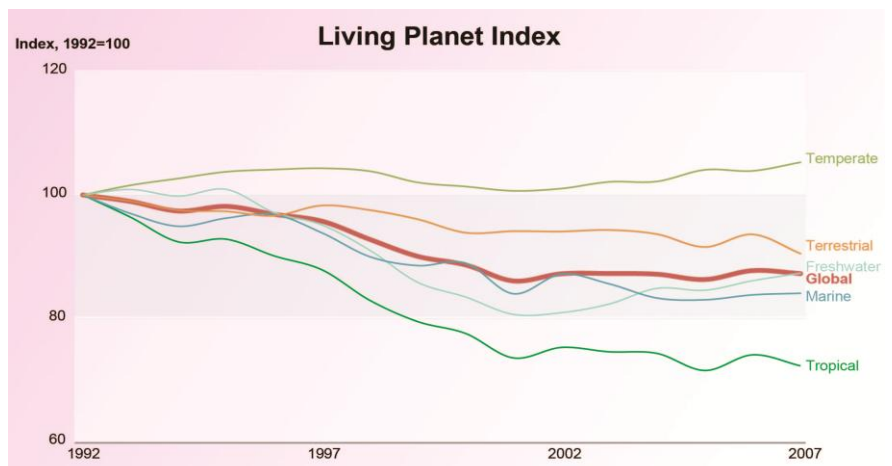

Figure 2: Globally, vertebrate populations are on the decline. Source: WWF/ZSL, 2011.

- *Desertification and drought*. Agricultural productivity in drylands continues to decrease because of the effects of desertification and drought (Figure 3);
- *Fish stocks.* The proportion of marine fish stocks that are overexploited or collapsed has increased considerably in recent decades;
- *Marine pollution*. The number of coastal dead zones has increased dramatically; and
- *Extreme events*. The number of flood and drought disasters has risen since the 1980s, as have the total number of people affected and the level of damage.
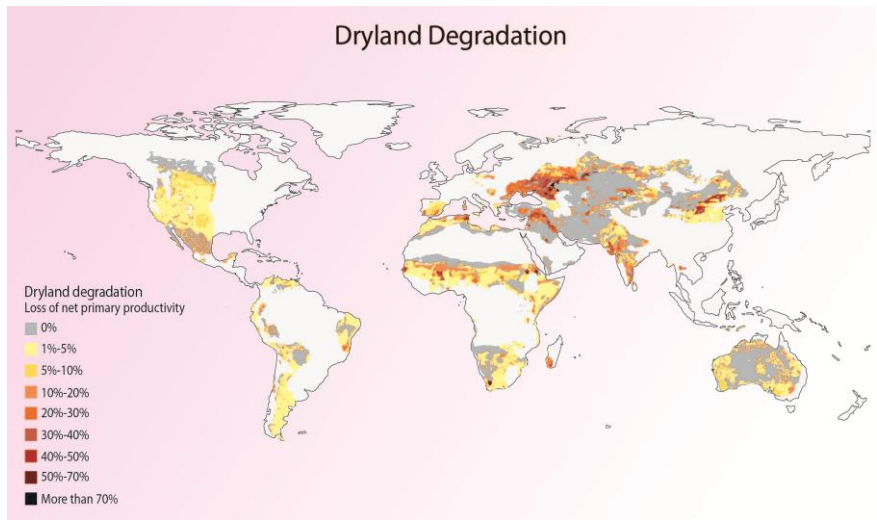
On the positive side, most issues for which a specific measurable target exists, achieved at least some progress. This 'need for numbers' was also highlighted in an earlier GEAS bulletin, calling for time bound, measurable goals and targets and for adequate monitoring of progress towards achieving them (UNEP 2012c). Examples of goals linked with measurable targets on which progress has been made include:

- *The elimination of substances that deplete the ozone layer.* The world has nearly eliminated the production and use of substances that deplete the protective ozone layer in the upper atmosphere (Figure 4), with the Montreal Protocol providing an example of what international cooperation at its best can achieve. Although full recovery of the ozone layer is not expected until mid-century or later, further expansion of the Antarctic 'ozone hole' has been halted (UN 2011);
- *Phasing out lead in gasoline*. Nearly all countries have phased out lead in gasoline, another outstanding global success story; and, to some extent at least (Figure 5);

Figure 3: Land degradation results in decreasing agricultural productivity. Source: Zika and Erb 2009.
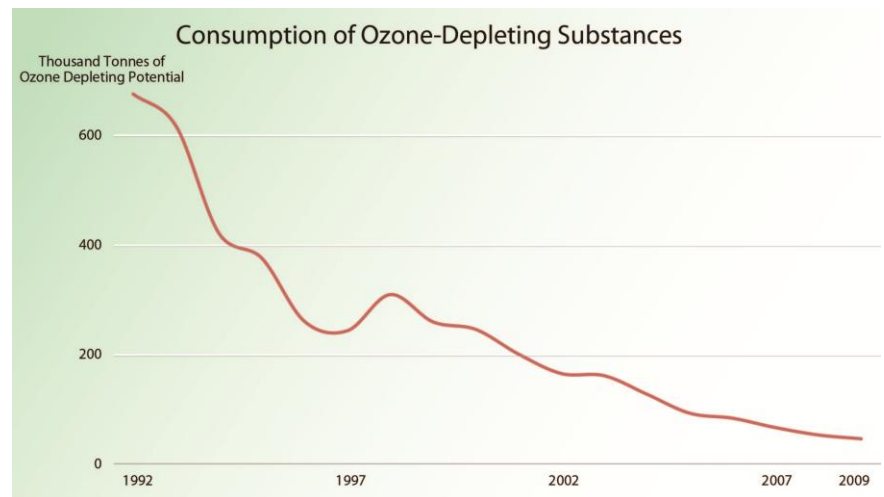

Figure 4: Use of substances that deplete the ozone layer has nearly been eliminated. Source: UNEP 2012d.
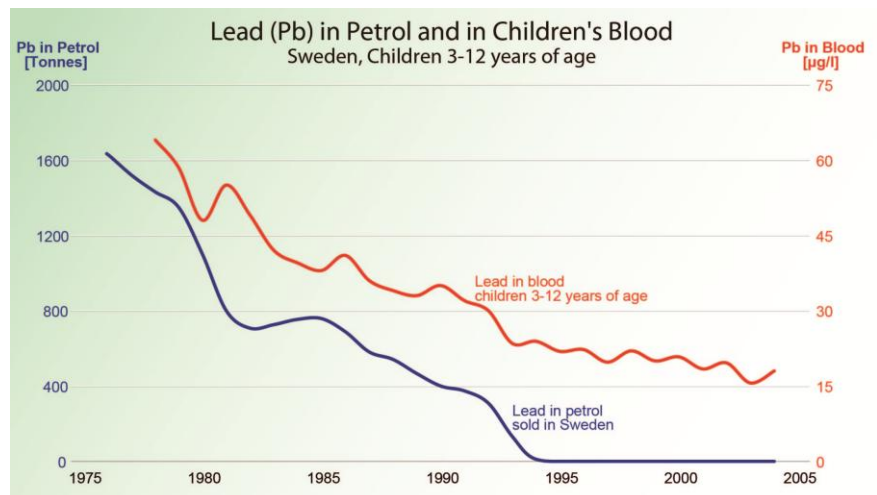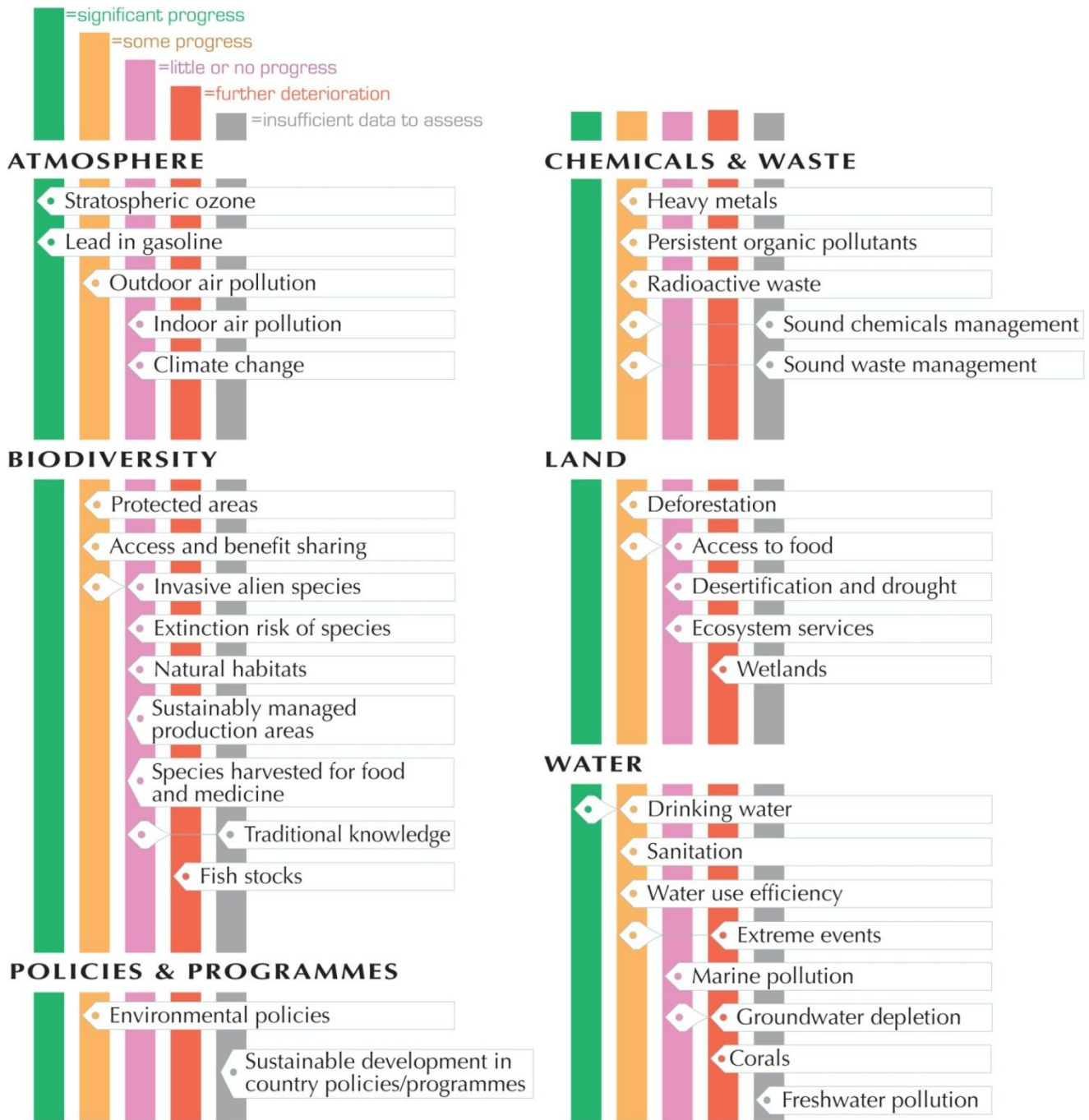

Figure 5: Nearly all countries have phased out lead in gasoline. Source: EEA, 2005).

- *Increasing the supply of safe drinking water*. The MDG target of halving the proportion of people without sustainable access to safe drinking water by 2015 was already met; however, more than 600 million people will still lack access to safe drinking water in 2015 (WHO 2012).

The world's overall progress towards environmental goals can be further summarized in an *Environment Scorecard (Figure 6)*, an illustrative snapshot showing how much progress has been made for the most important issues on a scale from green (significant progress) to red (further deterioration). Out of a subset of 34 selected major global environmental issues included in the *Measuring Progress* publication (UNEP 2012b), 18 were considered to have made significant or at least some progress. For 11 issues it was considered that little or no progress was achieved, or even further deterioration has taken place. Five issues could not properly be assessed due to lack of data.

Figure 6: Environment Scorecard 2012. Source: UNEP 2012b.

The findings presented in Figure 6 lend some support to the adage **what is not measured cannot be managed** – meaning to say that unless you measure something you don't know if it is getting better or worse, and you can't manage for improvement if you don't measure to see what is getting better and what isn't. This holds true in particular for many environmental challenges that can be tackled only by a concerted international effort. The establishment of the Millennium Development Goals, following the Millennium Summit and its Millennium Declaration in 2000, shows how the adoption of specific, measurable targets can spur greater efforts to collect and coordinate data on the issues they cover. As the 2011 Millennium Development Goals report states:

> '*As a result of recent efforts, more data are now available in the international series for the assessment of trends for all MDGs. In 2010, 119 countries had data for at least two points in time for 16-22 indicators; in contrast, only four countries had this data coverage in 2003. These advances are the result of increased national capacity to venture into new data collection initiatives, as well as to increase the frequency of data collection.*' (UN 2011).

The recent Rio+20 Conference, focusing on 'the future we want', underscored the importance of the MDGs and called for a process to build on those and develop a broader set of sustainable development goals (SDGs), which should be "action-oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries while taking into account different national realities, capacities and levels of development and respecting national policies and priorities" (UN 2012). It was also recognized that progress towards the achievement of the goals needs to be assessed and accompanied by targets and indicators while taking into account different national circumstances, and that there is a need for integrated and scientifically-based information on sustainable development. UNEP also pleads for more attention and resources on improved monitoring and environmental data collection in order to provide reliable and relevant information for decision-making. A new commitment to deal with persistent environmental problems and emerging issues calls for cooperation, flexibility and innovative solutions (UNEP 2011).

What can be done?

Many global environmental treaties and goals have been developed in a fragmented way, but the interconnectedness between climate change, water resources, desertification and biodiversity loss, for example, makes isolated governance responses less effective. The fragmented international framework has also resulted in a heavy burden for some countries, in terms of reporting and fulfilling their obligations. Measurable targets can encourage the collection and coordination of data, thereby improving our state of knowledge on the subjects they cover. In addition, it is often difficult to compare the situation in different countries even when data are available, since many countries follow their own national guidelines when collecting them. For one, efforts should be made to make data from different countries easier to compare, by promoting the use of international standards and frameworks such as the Framework for Development of Environment Statistics (FDES) currently being revised by the United Nations and supporting the efforts to compile harmonized databases and make data easily available and retrievable through dedicated information systems such as UNdata , MDG Indicators or the proposed UNEP*Live*. Importantly, a considerable number of research and data gaps need to be addressed in order to track more accurately the state and trends of the global environment. Collection of data needs to be strengthened for a good number of issues such as freshwater quantity and quality, groundwater depletion, ecosystem services, land degradation and chemicals and waste.

In conclusion, the international community should consider establishing clear and measurable targets covering a broader range of environmental challenges, particularly those currently being addressed with least success, those with more irreversible and imminent effects on human livelihoods, and overall those with greatest relevance to the achievement of sustainable development. Ongoing and future priorities include promoting, where possible, the use of common standards for data collection and analysis, increased data sharing, consistent time series of environmental

observations, capacity building to strengthen environment statistics and other data in a wider range of countries, and harnessing new technologies to communicate environmental information effectively to policy makers and the public.

Acknowledgements

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