





vision drivers by capacity atmosphere cooperation by adaptive management and governance energy change chemicals biodiversity participation consumption options critical thresholds policy access acceleration human well-being earth system

# Summary for Policy Makers

**United Nations Environment Programme** 

First published by the United Nations Environment Programme in 2012 Copyright © 2012, United Nations Environment Programme

This publication may be reproduced in whole or in part and in any form for educational or non-profit services without special permission from the copyright holder, provided acknowledgement of the source is made. UNEP would appreciate receiving a copy of any publication that uses this publication as a source.

No use of this publication may be made for resale or any other commercial purpose whatsoever without prior permission in writing from the United Nations Environment Programme.

Applications for such permission, with a statement of the purpose and extent of the reproduction, should be addressed to the Director, DCPI, UNEP, P.O. Box 30552, Nairobi, 00100, Kenya.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of UNEP concerning the legal status of any country, territory or city or its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of a commercial company or product in this publication does not imply endorsement by the United Nations Environment Programme. The use of information from this publication concerning proprietary products for publicity or advertising is not permitted.

Printing: Publishing Services Section, UNON, Nairobi, ISO 10041:2004 certification.

UNEP promotes environmentally sound practices globally and in its own activities. This report is printed on paper from sustainable forests including recycled fibre. The paper is chlorine free and the inks vegetable-based. Our distribution policy aims to reduce UNEP's carbon footprint.



vision drivers by capacity atmosphere cooperation by adaptive management and governance energy change chemicals of the chemicals of the chemicals of the cooperation by biodiversity participation consumption options critical thresholds policy access acceleration human well-being earth system

# **Summary for Policy Makers**





**United Nations Environment Programme** 

## The GEO-5 assessment process

With its core mandate of 'keeping the global environment under review', UNEP coordinates integrated environmental assessments, which involve extensive consultations and participatory processes. Four Global Environment Outlook (GEO) assessment reports have been produced, in 1997, 1999, 2002, and 2007.

The 25th session of UNEP's Governing Council in Decision 25/2: III requested the Executive Director, through the Programme of Work, to continue to conduct a comprehensive, integrated and scientifically credible global environmental assessment (GEO-5), avoiding duplication and building on on-going assessment work, to support decision-making processes at all levels, in the light of the continuing need for up-to-date, scientifically credible, policy-relevant information on environmental change worldwide, and including the analyses of cross-cutting issues and indicator-based components. It was further approved by UNGA's 2nd Committee (Economic and Financial) resolution (A/C.2/66/L.57).

As a significant contribution to the 2012 United Nations Conference on Sustainable Development (Rio+20), the fifth Global Environment Outlook builds on previous reports and continues to provide an analysis of the state, trends and outlook of the global environment. It differs from previous GEO reports in its emphasis on internationally agreed goals and a shift from assessing 'problems' to providing possible 'solutions'.

The GEO-5 assessment report has three distinct, yet related parts:

**Part 1** is an assessment of the state and trends of the global environment in relation to key internationally agreed goals such as Millennium Development Goals (MDGs) agreed in 2000 and goals of various multilateral environmental agreements (MEAs) based on national, regional and global analyses and datasets. It provides an evaluation of the gaps in achieving internationally agreed goals and their indicative implications for human well-being.

**Part 2** of the assessment prioritizes a varying number of environmental themes per region and selected internationally agreed goals under each theme through a consultative process. The regional assessments focus on identifying policy responses that would help speed up the achievement of internationally agreed goals. It has been observed that there are many policies that have been shown to work in more than one country, but these policies need to be more widely supported, adopted and implemented according to national conditions to speed up the achievement of internationally agreed goals. The analysis is presented using case studies that illustrate the application of policies at a national or transboundary level within each region and presents the benefits and drawbacks of implementing the policies and the enabling factors and barriers that enhance or impede their uptake.

Limited evidence of the potential for policy transfer to other countries or other regions is documented, as often there is insufficient empirical evidence to make categorical statements on policy success or transferability.

Among the long list of policy responses found to be effective, some highly promising approaches are described in the regional chapters. Together, these form a possible policy agenda that would support an inclusive green economy approach and are worthy of closer analysis by governments when examining new policy options.

**Part 3** identifies possible options for action to transition towards sustainable development including through increased coordination, participation and cooperation required to support the achievement of internationally agreed goals and work towards sustainable development at the global level.

The development of GEO-5 involved extensive collaboration between UNEP and a multi-disciplinary network of experts, all of whom made their valuable time and knowledge available to the process in recognition of its importance.

For the first time, authors, reviewers and members of three specialized groups were nominated by governments and other stakeholders. UNEP then followed a selection process.

The following three GEO-5 specialized advisory bodies were convened to support the assessment process:

- The GEO-5 High Level Intergovernmental Advisory Panel: The Panel identified the internationally agreed goals that underpin the assessment. The Panel also provided guidance to authors in the drafting of this Summary for Policy Makers (SPM).
- The Science and Policy Advisory Board: The Board was responsible for strengthening the scientific credibility and policy relevance of the assessment by providing guidance throughout and undertaking an evaluation of the assessment process.
- The Data and Indicators Working Group: The Group provided support to the assessment process on core data.

The SPM is based on and consistent with the findings of the GEO-5 assessment. The GEO-5 Summary for Policy Makers was negotiated and endorsed at an intergovernmental meeting from 29 to 31 January 2012 in the City of Gwangju, Republic of Korea.

## This Summary for Policy Makers highlights the findings of the fifth Global Environment Outlook (GEO-5) report and is prepared by the UNEP Secretariat with:

Guidance from members of the GEO-5 High-level Intergovernmental Advisory Panel

Hussein A. Al-Gunied, Mohammed Saif Al-Kalbani, Burcu Bursali, Mantang Cai, Sandra De Carlo, Jorge Laguna Celis, Guilherme da Costa, Liana Bratasida, Raouf Dabbas, Idunn Eidheim, Prudence Galega, Nilkanth Ghosh, Rosario Gomez, Han Huiskamp, Jos Lubbers, John Michael Matuszak, Samira Nateche, Kim Thi Thuy Ngoc, Van Tai Nguyen, Jose Rafael Almonte Perdomo, Majid Shafie-Pour- Motlagh, Jiang Wei, Albert Williams, Daniel Ziegerer

Technical inputs from the Coordinating Lead Authors

Ivar Baste, Nicolai Dronin, Tom Evans, Maxwell Finlayson, Keisha Garcia, Carol Hunsberger, Maria Ivanova, Jill Jaeger, Jennifer Katerere, Peter King, Bernice Lee, Marc Levy, Alexandra Morel, Frank Murray, Amr El-Sammak, Begum Ozynayak, Laszlo Pinter, Walter Rast, Roy Watkinson

and

all authors whose contribution in the GEO-5 main assessment report served as a basis for the GEO-5 Summary for Policy Makers

#### It was negotiated and endorsed on 31 January 2012 by:

The Intergovernmental Meeting on the fifth Global Environment Outlook Summary for Policy Makers

Azerbaijan, Belarus, Belize, Bhutan, Brazil, Burundi, Cambodia, Canada, China, Colombia, Comoros, Cook Islands, Czech Republic, Democratic Republic of Congo, Egypt, Ethiopia, Germany, Georgia, Ghana, Guinea Bissau, India, Indonesia, Iran (Islamic Republic of), Iraq, Kenya, Kyrgyzstan, Mexico, Morocco, Myanmar, Nepal, Niger, Nigeria, Norway, Pakistan, Palau, Peru, Philippines, Poland, Republic of Korea, South Sudan, Romania, Serbia, Spain, Sweden, Switzerland, Thailand, Togo, Turkey, Uganda, Ukraine, United Republic of Tanzania, United States of America, Yemen Palestine attended the meeting as an observer The following intergovernmental organisation (IGO)-the League of Arab States also attended the meeting

#### The UNEP Secretariat included

Joseph Alcamo, Matthew Billot, Ludgarde Coppens, Volodymyr Demkine, Linda Dusquenoy, Sandor Frigyik, Peter Gilruth, Tessa Goverse, Jason Jabbour, Fatoumata Keita-Ouane, Masa Nagai, Nick Nuttall, Brigitte Ohanga, Young-Woo Park, Nalini Sharma, Anna Stabrawa, Ron Witt

### Production team

Helen de Mattos, Neeyati Patel, Riccardo Pravettoni (GRID-Arendal), Audrey Ringler, Petter Sevaldsen (GRID-Arendal), Janet Fernandez Skaalvik (GRID-Arendal), Bartholomew Ullstein

## **1. Critical thresholds**

The currently observed changes to the Earth System are unprecedented in human history. Efforts to slow the rate or extent of change – including enhanced resource efficiency and mitigation measures – have resulted in moderate successes but have not succeeded in reversing adverse environmental changes. Neither the scope of these nor their speed has abated in the past five years.

As human pressures on the Earth System accelerate, several critical global, regional and local thresholds are close or have been exceeded. Once these have been passed, abrupt and possibly irreversible changes to the life-support functions of the planet are likely to occur, with significant adverse implications for human well-being. An example of an abrupt change at a regional scale is the collapse of freshwater lake and estuary ecosystems due to eutrophication; an abrupt and irreversible example is the accelerated melting of the Arctic ice-sheet, as well as glacial melt, due to an amplification of global warming (Figure 1). The impacts of complex, non-linear changes in the Earth System are already having serious consequences for human well-being such as:

- multiple and interacting factors, including droughts combined with socio-economic pressures, affect human security;
- increases of average temperature above threshold levels in some places has led to significant human health impacts such as increased incidences of malaria;
- increased frequency and severity of climatic events, such as floods and droughts, to an unprecedented level affect both natural assets and human security;
- accelerating changes of temperature and sea level rise are affecting human well-being in some places. For example, they affect the social cohesion of many communities including indigenous and local ones, and sea level rise poses a threat to some natural assets and the food security of the small island developing states; and
- substantial biodiversity loss and on-going extinction of species are affecting the provision of ecosystem



services, such as, the collapse of a number of fisheries and the loss of species used for medicinal purposes.

The prospect of improving human well-being is critically dependent on the capacity of individuals, countries and the international community to respond to environmental changes which increase risks and reduce opportunities for the advancement of human well-being, in particular efforts to eradicate poverty amongst poor and vulnerable populations. Because of the complexities of the Earth System, responses need to focus on the root causes, the underlying drivers of environmental changes, rather than only the pressures or symptoms.

## 2. Evidence-based policy making requires more, reliable data

The lack of reliable and consistent time-series data on the state of the environment is a major barrier to increasing the effectiveness of policies and programmes. Additionally, many of the most important drivers of environmental change or even their impacts are not systematically monitored. All countries should undertake to monitor and assess their own environment and integrate social, economic and environmental information to inform decision-making processes. As standardized approaches to data collection are needed, international cooperation and capacity building for collecting data must be strengthened. Improving access to information is also essential.



## **3. Environmental deterioration demonstrates internationally agreed goals have only been partially achieved**

Many sub-national, national and international instruments now in place are contributing to environmental improvements. There is evidence, however, of continuing deterioration in many places and for most of the global environmental issues reported on in GEO-5. For such issues as exposure pathways and effects of chemicals, and the trends in land degradation a better understanding would support better responses. For others, such as reducing particulate matter (PM) concentrations in the atmosphere, more consistent implementation of existing instruments is needed.

## Atmosphere

Some atmospheric issues have been solved effectively as a result of a variety of mechanisms and where successful

action has been taken, the benefits far exceed the costs. Significant progress has, for example, been made in reaching the internationally agreed goal of the Montreal Protocol to protect the stratospheric ozone (ozone in the upper atmosphere) layer. A drastic reduction in both the production and use of ozone-depleting substances (ODS) has been achieved, resulting in a 31 per cent improvement in ODS indicators at mid latitudes since 1994, and the predicted avoidance of 22 million cases of cataract for people born between 1985 and 2100 in the United States of America alone.

For other issues, such as the reduction of indoor and outdoor PM and emissions of sulphur and nitrogen compounds, progress has been mixed. Tropospheric ozone (ozone in the lower atmosphere) remains a significant problem and is proving difficult to address.

### Figure 2: Trends in temperature change and atmospheric CO<sub>2</sub> concentrations, 1850–2010





In parts of Africa, Asia and Latin America, where urban PM levels remain far in excess of international guidelines, the concern is high. Similarly, the dust-haze phenomenon in the Middle East is of concern. Improved public information on local air quality could contribute to raising awareness of this issue.

The internationally agreed goal of avoiding the adverse effect of climate change is presenting the global community with one of its most serious challenges (Figure 2) that is threatening overall development goals. As progress in reducing the carbon intensity of consumption and production is being outstripped by increased levels of consumption, reaching the climate goal under the United Nations Framework Convention on Climate Change (UNFCCC) of reducing global greenhouse gas (GHG) emissions so as to hold the increase in global average temperature below 2° C above pre-industrial

## Land

The pressure on land resources has increased in recent years. Economic growth has come at the expense of natural resources and ecosystems, for example, due to perverse incentives, deforestation and forest degradation alone will likely cost the global



## 预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5\_14060

