



iisd Reporting Services

UNEP GEO Bulletin

A Summary Report of the Intergovernmental Meeting on the Fifth Global Environmental Outlook Summary for Policy Makers

Published by the International Institute for Sustainable Development (IISD)

ONLINE AT [HTTP://WWW.IISD.CA/YIMB/GEO/GEO5M/](http://www.iisd.ca/yimb/geo/geo5m/)
VOLUME 182, NUMBER 4, FRIDAY, 3 FEBRUARY 2012



SUMMARY REPORT OF THE INTERGOVERNMENTAL MEETING ON THE FIFTH GLOBAL ENVIRONMENTAL OUTLOOK SUMMARY FOR POLICY MAKERS: 29-31 JANUARY 2012

The Intergovernmental Meeting on the Fifth Global Environmental Outlook (GEO-5) Summary for Policy Makers (SPM) took place in Gwangju City, Republic of Korea, from Sunday, 29 to Tuesday, 31 January 2012. Participants from 62 countries, 14 experts and two observers took part in the meeting to finalize the draft text of the SPM.

The GEO is a series of reports that informs environmental decision-making and endeavors to facilitate interaction between science and policy through the provision of information to support environmental management and policy development.

GEO-5 aims to, *inter alia*, provide a scientific analysis of selected environmental challenges and the solutions available to address them, including their economic, environmental and social costs and benefits. It is also intended to have a strong regional emphasis.

Over the course of the three days, delegates negotiated the draft text of the SPM, which comprised of six sections: critical thresholds; evidence-based policy making requires more, reliable data; environmental deterioration demonstrates internationally agreed goals have only been partially achieved; shifting the policy focus; scaling up promising policies, practices from the regions; and innovative responses – an opportunity for cooperation. Under these sections, the topics debated ranged from the effect continued environmental deterioration has had for achieving internationally agreed goals such as the Millennium Development Goals, biodiversity targets and others, regional policy assessments, and steps that need to be taken to ensure success in the future. Lively debate on these issues resulted in late night sessions, but ultimately the three days of hard work endorsed the draft SPM, which will be forwarded to the twelfth Special Session of the UN Environment Programme’s (UNEP) Governing Council (GC) for consideration and adoption.

A BRIEF HISTORY OF THE GEO PROCESS

UNEP’s GEO was launched in 1995 in response to a request by the UNEP GC for a comprehensive report on the state of the world environment. The GEO is a process of conducting a global integrated environmental assessment to deliver the best available scientific findings to policy makers and provide them with sufficient information to respond effectively to environmental challenges. The output of the GEO process is an assessment report of the state and trends of the global environment.

UNEP has so far produced four GEO reports:

GEO-1, published in 1997, provided a comprehensive overview of the state of the world’s environment and showed that although significant progress had been made in confronting environmental challenges in both developing and industrialized regions, there was still a need to pursue environmental and associated socioeconomic policies vigorously.

GEO-2, published in 1999, concluded that if current trends in population, economic growth and consumption continued, the natural environment would be increasingly stressed.

GEO-3, published in 2002, provided an overview of the main environmental developments over the past three decades, demonstrating how social, economic and other factors contributed to the changes that had occurred. It highlighted increasing poverty and concluded that four major divides threatening sustainable development categorize the world: the environmental, policy and lifestyle divides; and the vulnerability gap.

GEO-4, published in 2007, assessed the state of the global atmosphere, land, water and biodiversity, as well as the human dimensions of environmental change, and presented scenarios and policy options for action in the context of environment for development. It issued an urgent call for action in dealing with persistent and urgent environmental problems, such as climate change, that undermine human wellbeing and development.

GEO-5 was requested by the 25th session of the UNEP GC, held in February 2009, in Nairobi, Kenya. GEO-5 will differ from previous GEO reports by shifting from assessing priority

IN THIS ISSUE

A Brief History of the GEO Process	1
GEO-5 Report	3
Organization of Work	3
Consideration of the GEO-5 Summary for Policy Makers	4
Statement by the Intergovernmental Meeting Endorsing the GEO-5 Summary for Policy Makers	9
Report of the Meeting	9
Special Event on “Sustainable Cities Responding to Climate Change”	9
Closure of the Meeting	10
Summary of GEO-5 SPM	10
Upcoming Meetings	11
Glossary	11

The *UNEP GEO Bulletin* is a publication of the International Institute for Sustainable Development (IISD) <info@iisd.ca>, publishers of the *Earth Negotiations Bulletin* © <enb@iisd.org>. This issue was written and edited by Qian Cheng, Kate Louw and Suzi Malan. The Editor is Leonie Gordon <leonie@iisd.org>. The Director of IISD Reporting Services is Langston James “Kimo” Goree VI <kimo@iisd.org>. Funding for coverage of this meeting has been provided by the Gwangju Metropolitan City/Ezppm inc. IISD can be contacted at 161 Portage Avenue East, 6th Floor, Winnipeg, Manitoba R3B 0Y4, Canada; tel: +1-204-958-7700; fax: +1-204-958-7710. The opinions expressed in the *Bulletin* are those of the authors and do not necessarily reflect the views of IISD. Excerpts from the *Bulletin* may be used in other publications with appropriate academic citation. Electronic versions of the *Bulletin* are sent to e-mail distribution lists (HTML and PDF format) and can be found on the Linkages WWW-server at <<http://www.iisd.ca/>>. For information on the *Bulletin*, including requests to provide reporting services, contact the Director of IISD Reporting Services at <kimo@iisd.org>, +1-646-536-7556 or 300 East 56th St., 11D, New York, New York 10022, United States of America.

“problems” to include assessments of priority solutions. The GEO-5 report will consist of three major parts: an assessment of the state and trends of the global environment; regional policy analyses; and potential opportunities for action at the global level. The report will be finalized in 2012 in order to feed into the UN Conference on Sustainable Development (UNCSD or Rio+20), one of the objectives of the GEO-5 assessment being to address the themes of this conference.

As part of the GEO-5 production process, a series of meetings have been held: a global intergovernmental and multi-stakeholder consultation; two meetings of the high-level intergovernmental advisory panel; seven regional consultations; two production meetings and an authors’ meeting; two meetings of the science and policy advisory board; and a meeting of the Summary for Policy Makers drafting group and the high-level intergovernmental advisory panel.

The overall aim of these consultations and meetings is for stakeholders and the UNEP Secretariat to: agree on priority environmental issues and challenges within each region; select internationally agreed goals directly related to these regional environmental priorities in order to develop the regional component of the assessment; and guide the content development and production process for GEO-5 and its associated products.

FIRST GLOBAL INTERGOVERNMENTAL AND MULTI-STAKEHOLDER CONSULTATION

The First Global Intergovernmental and Multi-stakeholder Consultation on GEO-5 was held in Nairobi, Kenya, from 29-31 March 2010, and marked the start of the GEO-5 process. The aim of the consultation was for governments and other stakeholder groups to discuss, agree upon and adopt the objectives, scope and process for GEO-5. The Consultation adopted seven objectives for GEO-5, which include: providing a comprehensive, integrated, and scientifically credible global environmental assessment to support decision-making processes; strengthening capacity building for developing countries and countries with economies-in-transition to conduct environmental monitoring and assessments at all levels; and strengthening the policy relevance of GEO-5 by including an analysis of policy option case studies, in order to identify promising policy options to speed up achievement of internationally agreed goals.

As part of the GEO-5 process, the Consultation also established a High-Level Intergovernmental Advisory Panel to, *inter alia*, identify relevant goals for Part 1 of the GEO-5 report, on the state and trends of the global environment.

FIRST MEETING OF THE HIGH-LEVEL INTERGOVERNMENTAL ADVISORY PANEL

The Panel met from 28-30 June 2010, in Glion, Switzerland, to choose the internationally agreed goals that would be analyzed in the GEO-5 process, and that would frame the regional policy assessments. The Panel also provided high-level strategic advice to guide chapter authors when evaluating the gaps in achieving these goals and identifying the policy options for speeding up their achievement.

REGIONAL CONSULTATIONS

NORTH AMERICA REGIONAL CONSULTATIONS: Two regional consultations were held for the North America region, in Washington DC, US, and Gatineau/Hull, Canada,

on 2 and 9 September 2010, respectively. At each of these consultations participants selected three environmental challenges, together with related internationally agreed goals. The UNEP Secretariat, in consultation with the Chairs of the two regional consultations, prepared a harmonized report for North America, with one final selection of priorities and goals. The North America Regional Consultations selected: land use, with the goal of developing and implementing integrated land management and water-use plans based on the sustainable use of renewable resources; freshwater, with the goal of developing water management strategies that promote equitable access and adequate supplies; environmental governance, with the goal of advancing the concept of a green economy in the context of sustainable development and poverty eradication; and energy, with the goal of substantially increasing the global share of renewable energy sources.

LATIN AMERICA AND THE CARIBBEAN REGIONAL CONSULTATION: The Latin America and the Caribbean Regional Consultation was held in Panama City, Panama, from 6-7 September 2010. Participants selected a set of regional environmental challenges, together with a set of internationally agreed goals for these challenges, as follows: biodiversity, with the goals related to sustainable use of biodiversity; climate change, with the goal of protecting the climate system for the benefit of present and future generations of humankind; freshwater, with the goal of increasing access to potable water; seas and oceans, with the goal of promoting the conservation and sustainable use of coastal and marine ecosystems, and their natural resources; soil, land use, land degradation and desertification, with the goal of developing and implementing integrated land management and water-use plans based on the sustainable use of renewable resources and integrated assessments of socio-economic and environmental potentials; and environmental governance, with the goal for collectively advancing and strengthening the interdependent and mutually reinforcing pillars of sustainable development - economic development, social development and environmental protection.

ASIA AND THE PACIFIC REGIONAL CONSULTATION: The Asia and the Pacific Regional Consultation was held in Bangkok, Thailand, from 16-17 September 2010, and participants identified five regional environmental priorities: climate change; environmental governance; biodiversity; freshwater; and chemicals and waste. They also voted for one associated internationally agreed goal for each theme while noting multiple relevant goals for each. IISD Reporting Services coverage of the consultation can be found at: <http://www.iisd.ca/yimb/geo/geo5/>

AFRICA REGIONAL CONSULTATION: The Africa Regional Consultation was held in Nairobi, Kenya, from 20-21 September 2010. Participants identified five priority environmental issues and challenges for the Africa region, as follows: climate change; soil, land use, land degradation and desertification; freshwater; biodiversity; and oceans and seas. They also agreed to discuss emerging and cross-cutting issues, such as governance, under each priority. IISD Reporting Services coverage of the consultation can be found at: <http://www.iisd.ca/yimb/geo/geo5/>

EUROPE REGIONAL CONSULTATION: The Europe Regional Consultation was held in Geneva, Switzerland, from 23-24 September 2010. Participants selected five regional

environmental priorities, together with a set of associated internationally agreed goals, as follows: air pollution and air quality; biodiversity; chemicals and waste; climate change; and freshwater. IISD Reporting Services coverage of the consultation can be found at: <http://www.iisd.ca/ymb/geo/geo5/>

WEST ASIA REGIONAL CONSULTATION: The West Asia Regional Consultation was held in Bahrain, from 4-5 October 2011. Participants identified their five regional environmental priorities as: freshwater, with the goal of developing water management strategies that promote equitable access and adequate supplies; soil, land use, land degradation and desertification, with the goal of developing and implementing integrated land management and water-use plans based on the sustainable use of renewable resources; energy, with the goals for promoting innovation, clean energy, energy efficiency and energy conservation; environmental governance, with the goal to assume a collective responsibility to advance, strengthen and reinforce the three pillars of sustainable development; and oceans and seas, with the goal to ensure the sustainable development of oceans, seas, islands and coastal areas.

FIRST PRODUCTION MEETING

The First Production Meeting took place in Cairo, Egypt, from 8-11 November 2010. The meeting was organized to achieve a common understanding of the GEO-5 scope, objectives, process and roles and responsibilities for the various expert working groups. Recommendations from the meeting to GEO-5 authors included: increasing emphasis on regional differences and on key messages that are of critical importance to GEO-5, and strengthening the assessment of goals. The next steps identified were to: establish a "Wiki" to allow access to information to accelerate the process; clarify issues connecting GEO-5 to the Rio+20 agenda and the green economy agenda as well as the interface between GEO-5 and other assessments; and mobilize resources to enable chapter working groups to meet.

FIRST MEETING OF THE SCIENCE AND POLICY ADVISORY BOARD

The Science and Policy Advisory Board first met in Nairobi, Kenya, from 13-14 April 2011. The meeting provided high-level strategic advice on linkages with other relevant global processes, compliance with the objectives, scope and process of GEO-5, ensuring scientific credibility, standards and guidelines for assessment, and the review process.

SECOND MEETING OF THE HIGH-LEVEL INTERGOVERNMENTAL ADVISORY PANEL

The second meeting of the Panel convened from 15-17 June 2011, in Geneva, Switzerland. Participants met to discuss, *inter alia*: key messages from the drivers, state and trends of the global environment; and main findings of the policy analysis from the regions including the social, economic and environmental benefits of implementing the recommended policies and global opportunities to stimulate regional and national actions. Participants also established guidance for contributing to Rio+20 and provided guidance to the GEO Secretariat and authors of the SPM.

SECOND PRODUCTION MEETING AND AUTHORS' MEETING

The second Production Meeting and Authors' Meeting took place from 5-8 September 2011 in Bangkok, Thailand to: hear updates on the GEO-5 review process and implementation of the GEO-5 assessment outline; discuss chapter content development, the SPM, harmonization of GEO-5 parts, data, indicators and gaps; and finalize key messages and consider the way forward.

SECOND MEETING OF THE SCIENCE AND POLICY ADVISORY BOARD

The second meeting of the Science and Policy Advisory Board convened from 23-25 November 2011 in London, UK.

MEETING OF THE SPM DRAFTING GROUP AND THE HIGH-LEVEL INTERGOVERNMENTAL ADVISORY PANEL

The meeting of the SPM Drafting Group and the Panel met from 28-29 November 2011 in Geneva, Switzerland, to discuss and agree on the content and structure of the SPM and finalize the draft SPM.

GEO-5 REPORT

On Sunday morning, Young-woo Park, UN Environment Programme (UNEP) Regional Director of the Asia and Pacific Region, welcomed delegates to the Intergovernmental Meeting on the Fifth Global Environmental Outlook (GEO-5) Summary for Policy Makers (SPM). He stressed the main difference between GEO-5 and the previous reports is that GEO-5 provides: concrete national policy options that will contribute to the UN Conference on Sustainable Development (UNCSD or Rio+20); and scientific space to identify key and potentially successful policies.

Young-sook Yoo, Minister of the Environment, Republic of Korea, reminded participants that it was 40 years since the establishment of UNEP and emphasized the urgency of tackling environmental challenges in a world that has added over 3 billion people and tripled its economic endeavors over these decades. She referred to some progress made in recent years with the agreement on the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization at the tenth Conference of the Parties (COP 10) to the Convention on Biological Diversity (CBD) in 2010, and UN Framework Convention on Climate Change (UNFCCC) in Durban in 2011, and said the Republic of Korea is actively seeking a paradigm shift towards harmonizing economic development and sustainable conservation of natural resources.

Un-tae Kang, Mayor of Gwangju Metropolitan City, Republic of Korea, expressed gratitude at the city being selected as the venue for this meeting, noting that the meeting will serve as a milestone in the journey towards protection of the earth's environment, and stressed the role of participants through this event in assisting in ensuring that the climate change framework is more concrete and policy-oriented. He then declared the meeting officially open.

Peter Gilruth, Director, Division of Early Warning and Assessment, UNEP, said that this is a special event for South Sudan, who was welcomed as UN's newest member state.

ORGANIZATION OF WORK

On Sunday morning, Yeon-chul Yoo, Director-General, International Cooperation Office, Ministry of Environment, Republic of Korea, and Ambassador Luis Javier Campuzano,

Permanent Representative to UNEP and the UN Human Settlements Programme (UN-HABITAT) for Mexico, were elected as Co-Chairs of the meeting with Philip Bankole, Federal Ministry of Environment, Nigeria, elected as rapporteur.

On the adoption of the agenda, the US suggested streamlining the SPM, and raised concerns about the lack of robust participation at the meeting as well as the lack of robust time-series data in GEO-5. Noting the challenge of organizing the meeting with maximum possible participation, the Secretariat said that the data needs could be highlighted in the GEO-5 SPM statement. Participants then adopted the meeting agenda by consensus.

CONSIDERATION OF THE GEO-5 SUMMARY FOR POLICY MAKERS

Participants met in plenary throughout Sunday, Monday and Tuesday to consider the draft text of the GEO-5 SPM. On Sunday morning, participants were initially invited to make general comments on the text during the first read through, followed by a more comprehensive negotiation of the draft. Joseph Alcamo, UNEP Chief Scientist, urged participants to provide input that would allow the SPM to fulfill GEO-5's mandate of being more policy-relevant in terms of the global state of the environment.

Norway, Peru, and others stressed the need for the document to contain more appropriate language targeted to policy makers. Germany, Iran, Yemen and Ghana called for a reflection of the urgent need for policy makers to take action.

On the relevance of the SPM to the objectives of Rio+20, several delegates including Kenya, the Republic of Korea and others, stressed the need to link the document more specifically to green economy and developing an institutional framework for sustainable development (IFSD).

While most countries expressed agreement with the SPM, many delegates referred to issues of content, such as emphasizing and including cross-cutting issues such as, *inter alia*: gender balance and empowerment; education; capacity building; civil society engagement; the economic implications of inaction; alteration of consumptive lifestyles; and strengthening of regional sections with a focus on best practices and challenges. They called for accessibility to the underlying data and stressed the importance of providing the SPM to the twelfth Special Session of UNEP's GC and to Rio+20, which will include a recommendation for the next GEO assessment cycle to have a bottom-up approach, including time-series data, and to be more evidence-based.

On Sunday afternoon, Co-Chair Yoo presented a summary that outlined the general comments from the first reading of the SPM, including policy relevance, style, content, thematic issues to be elaborated on, structure of the SPM, and process. Regarding the policy relevance of the SPM, he noted the need to: link the SPM to Rio+20, in particular the thematic pillars of green economy and IFSD; highlight the progress and gaps in meeting internationally agreed goals; and outline opportunities for cooperation among multilateral environmental agreements (MEAs). On style, he highlighted, *inter alia*, the need for simple and targeted language and positive messages that reflect the urgency for action. On content, he presented the need to incorporate cross-cutting issues such as gender empowerment, capacity building, civil society engagement, economic

implications of inaction, and specific best practices and challenges at regional level. On thematic issues, he addressed the need for taking into account, *inter alia*, natural capital and resource accounting, the critical role of ecosystem services, land degradation and ocean acidification, and data availability.

At the start of the second reading on Sunday afternoon, led by Co-Chair Campuzano, the US proposed producing a short two-page summary for the SPM that contains the key messages, noting that the US had offered to draft such a summary for review once the draft SPM had been negotiated. Iran cautioned that the SPM should be as short and concise as possible, and that such a summary would only be beneficial if the internationally agreed goals and innovative responses are dealt with. Upon a request for clarification from Norway, Campuzano said that the final draft text of the SPM would be finalized by the plenary.

CRITICAL THRESHOLDS: The first section of the SPM on "critical thresholds" was considered by plenary on Sunday afternoon. Participants' discussions focused on, *inter alia*: efforts to slow down the rate or extent of changes to the Earth System; examples of abrupt and possibly irreversible changes; and the impacts of complex and non-linear changes.

On efforts to slow down the rate or extent of changes in the Earth System, Indonesia proposed inclusion of adaptation measures. Alcamo cautioned that adaptation is categorized as a response mechanism rather than an effort to curb changes. On examples of abrupt and irreversible changes caused by human pressures on the Earth System crossing certain thresholds, the US suggested differentiating between "abrupt changes," and "abrupt and irreversible changes" and proposed including glacier melt as an example of abrupt and irreversible change. This was agreed by participants on Tuesday.

On the impacts of complex non-linear changes in the Earth's System on human well-being, the US cautioned against universalizing the consequences of temperature rise, and proposed to substitute "crossing of thresholds" with "increases" of average temperature levels that "can lead" to significant human health impacts. Tanzania, supported by Palestine and others, insisted on retaining "thresholds" and suggested replacing "can lead" with "has led." Alcamo commented that such wording issues rest at the margin of science as long as certain conditions are identified. Participants agreed on stating that an "increase of average temperature above threshold levels in some places has led to significant human health impacts."

Regarding the effect of climate events on natural assets and human security, Iran, supported by the US, proposed including "increased frequency and severity of climate events." Tanzania, supported by Palestine and Comoros, stressed the need to highlight the effect of "unprecedented" climate events. Palau, with Tanzania and Comoros, expressed concern about sea level rise and suggested text on this issue.

Palestine, as an observer, suggested a new paragraph to highlight the negative effects that substantial and on-going biodiversity loss can have on humans. Alcamo questioned whether this paragraph would be more appropriate in the section on biodiversity. Norway argued that this proposed paragraph should remain in the section on critical thresholds in order to present a more balanced view for policy makers. Delegates agreed to retain the proposed paragraph on

biodiversity in this section. The US proposed amendments to provide a clear example of the impact that loss of biodiversity can have on a “complex system.”

On Monday morning, delegates resumed their discussions on “critical thresholds.” Co-Chair Luis Campuzano continued discussions on the draft text of the SPM. On the reduced opportunity for the advancement of human well-being, particularly for poor and vulnerable populations, due to environmental changes, the US proposed referencing “in our efforts to eradicate poverty” and Sweden, opposed by the US, suggested adding reference to planetary boundaries to the Earth’s systems. These proposals were agreed in the final draft SPM.

On Monday evening, the US, on Palau’s proposed paragraph on the impact of temperature and sea level rise on human well-being, particularly on the threat to small island developing states (SIDS), suggested that accelerating changes of temperature and sea level rise “may affect” human well-being instead of currently “affecting” human well-being. Palau objected to this change, lamenting that SIDS are already being affected. Noting Palau’s proposal of sea level rise “affecting” human well-being “in some places,” Co-Chair Campuzano, supported by Ethiopia, suggested retaining “affecting” and participants agreed.

EVIDENCE-BASED POLICY MAKING REQUIRES MORE, RELIABLE DATA: During Sunday afternoon’s discussions, Peru suggested, and delegates agreed, that the US elaborate on the text in this section that calls for “more, reliable data” required for evidence-based policy making.

ENVIRONMENTAL DETERIORATION DEMONSTRATES INTERNATIONALLY AGREED GOALS HAVE ONLY BEEN PARTIALLY ACHIEVED: This topic was addressed throughout Monday and Tuesday.

Peru and the US called for integrating the section on evidence of continued deterioration with the opening paragraph of the section on “environmental deterioration demonstrates internationally agreed goals have only been partially achieved,” to which delegates agreed.

Atmosphere: Delegates took up the issue of atmosphere for the first time on Monday morning. On the topic of the earth’s atmosphere, Iran proposed including reference to development goals that are being threatened by temperature rise. Germany proposed including a specific reference to the UNFCCC target to limit global warming to 2°C and the need for additional pledges for reducing carbon intensity. Tanzania called for referencing national adaptation plans in the discussion on preparing and implementing national plans of action on climate change. The US called for inclusion of effectively reducing the rate of temperature rise while improving human health and food security.

When discussions resumed on Monday evening, Peru suggested quoting language contained in the GEO-5 report citing “CO₂ concentrations have increased from 354 parts per million (ppm) in 1990 to 392 ppm in 2011, leading to a relatively fast pace of global warming, which is threatening overall development goals.” Cautioning against the absolute accuracy of the figure and the risk of being misrepresented by the media, the US objected saying “additional numbers can undermine our work.” Alcamo noted that the source of the data

is the US National Oceanic and Atmospheric Administration (NOAA). Colombia, with Peru, opposed deleting the numbers saying there is extensive scientific literature and evidence to support the statement. Following general discussion, Co-Chair Campuzano suggested not including the statement for the sake of time, and participants agreed. Participants could not reach an agreement on the language referring to the UNFCCC targets, and decided to consider the issue further on Tuesday morning.

Participants further considered the proposal made by Germany, when discussions resumed on Tuesday, to include reference of targets under the UNFCCC, and their proposal on the need for “additional pledges” in order to fulfill the climate targets. The US expressed concern about the reference to the UNFCCC, and objected to the inclusion of “additional pledges.” Delegates agreed to the deletion of the reference to the need for additional pledges, and agreed on a new proposal made by US.

On progress needed towards preparing and implementing national plans of action on climate change, there was broad agreement on adding specific language referring to mitigation and adaptation. Tanzania suggested adding “including national adaptation plans,” and India proposed citing the need to implement “lower emission development strategies and national appropriate mitigation actions.” Iran emphasized the need for national mitigation plans. Participants agreed to a proposal made by Alcamo to reference nationally appropriate mitigation actions (NAMAs) and national adaptation plans of action (NAPAs) from the UNFCCC.

Noting complementary action is needed to address “short-lived climate forces” as proposed by US, Alcamo proposed citing language from the GEO-5 report, stating “short-lived climate forces” include black carbon, methane, and tropospheric ozone. Participants agreed on the definition, and accepted language that says actions on short-lived climate forcers can cost-effectively reduce the rate of temperature increase while reducing risks to human health and food production.

Land: Discussions on land were taken up for the first time on Monday morning. Brazil questioned including the cited example of an innovative policy to curb destructive processes on land, which details a moratorium on soy production in the Brazilian Amazon. Egypt suggested including a reference to the use of sustainable land management practices as an effective policy to curb destructive processes on land. India requested including an additional paragraph on the importance of forestry for curbing destruction of land and combating climate change. US urged for inclusion of the benefits of agroforestry practices in addition to forestry practices. Myanmar suggested referencing social forestry systems. Brazil asked for replacement of the reference to policies that encourage the production of bio-fuels with a reference to intensification of agricultural activities to meet increasing demands.

During Monday’s late night deliberations, delegates discussed the policies that might relieve pressure on land resources including: some forestry, agro-forestry and social forestry systems; appropriate forest management strategies in regenerating degraded forests; and regulating diversion

of forest land for non-forest purposes. Brazil mentioned coordinated efforts in the Brazilian Amazon that have shown innovative policies on forest monitoring, land tenure and law enforcement together with consumer-driven initiatives, which had a significant impact on lowering deforestation rates. Iran cautioned against highlighting only certain challenges to policy reformation, and US, Brazil and Peru cautioned against singling out animal product diets and biofuel production as responsible for high environmental costs. Delegates stressed the importance of recognizing and introducing policies that capture the non-market value of ecological functions and ecosystem services. Thailand cautioned that an integrative approach to conservation and development is not always easily reconciled with local land use legislation.

Freshwater: Participants first addressed this topic on Monday morning, with many underscoring the complexity of the issues pertaining to freshwater. Tanzania highlighted the need to consider the provision of sanitation, saying that 2.6 billion people worldwide are without access to improved sanitation facilities. Thailand expressed concern that the limit of sustainability of water resources has already been reached, which is causing stress on both people and biodiversity. Supporting the statement of Thailand, Azerbaijan highlighted the challenge of transboundary water sources and international lakes of non-party countries that are intended to strengthen national measures for the protection of ecologically sound management of transboundary surface and ground waters. Indonesia urged assistance for capacity building, and with Kenya, stressed the need for financial resources and technical assistance for water harvesting, watershed management and desalinization. Iraq, with Azerbaijan, suggested referring to the transboundary nature of many water resources. US underscored the need for improving data collection, monitoring, and assessment, while Iran said monitoring and assessment is an important and cross-cutting issue that should be addressed in the section entitled “evidence-based policy making requires more, reliable data.”

During Monday’s late night discussions on partially agreed international goals in connection with fresh water resources, Palau requested that the text is revised to include the world’s aim for reaching the Millennium Development Goal (MDG) on access to safe drinking water, and Tanzania highlighted the importance of including reference to the large amount of people still lacking access to basic sanitation facilities. Germany noted that the map depicting the proportion of renewable water resources withdrawn across the globe incorrectly portrayed his country as water-scarce, and the Secretariat agreed to replace the figure. After some debate among delegates, US, Czech Republic and Canada proposed text on emphasizing the need for policies to address the shortage of reliable data from many countries across the globe, to which delegates agreed. Kenya highlighted the high costs of some watershed management activities, and most delegates noted that desalinization is still a very costly process, which requires advanced technical knowledge and large amounts of energy. Ethiopia and Ghana stressed the need for financial and technical assistance to improve access to fresh water resources in support to a suggestion by Iran to qualify human assistance in capacity building strategies.

Oceans: This topic was first addressed on Monday morning. Norway, with Peru, asked for the deletion of a reference to international conventions being difficult to implement as they are dependent on national legislation, saying that the control of marine resources may reflect national interests as opposed to protecting the global marine environment. The US noted that regional species-specific, border species-specific and global fisheries agreements are important tools to address this issue. Norway, supported by US, also suggested deleting a reference to weak and fragmented governance of oceanic areas beyond national boundaries. Thailand called for including that the absorption of anthropogenic CO₂ emissions intensifies ocean acidification and contributes to coral bleaching. Kenya called for including references to sustainable marine park management.

During the discussions on Tuesday night on the role of oceans in partially agreed international goals US suggested that the focus should include not only international conventions but also regional and sub-regional conventions. Peru, Norway, Canada, Germany and Indonesia proposed shortening some of the text as the issues are represented in other sections of the document. Turkey, Czech Republic and Bhutan also supported deleting references to sensitive regional species-specific fisheries agreements.

On text noting the contribution of CO₂ to increases in ocean acidification and contributing to coral bleaching, Norway, with Peru, favored inclusion of the sentence, but, opposed by Iran, suggested that a reference to exact pH levels be deleted. Alcamo noted that there is some doubt in the scientific community regarding the causal relationship between ocean acidification and coral bleaching, saying that ocean acidification generally affects the associated marine life in the area. After prolonged debate, delegates accepted wording noting that CO₂ absorption is “postulated” to be a threat to coral reef communities. On Thailand’s proposal of including a sentence that anthropogenic CO₂ emissions intensify ocean acidification and contributes to coral bleaching, Alcamo noted that this is a new and emerging concept. The US noted that the reference could also include calls for more studies as an outcome of Rio+20. Delegates agreed to keep the sentence.

On a proposal by Kenya to include sustainable management of marine parks, Peru questioned whether this was supported by the underlying text. Germany said that his country practices integrated coastal zone management (ICZM) and does not recognize marine parks. The US noted that marine parks are integral in many areas practicing ICZM, and suggested that the text refer to the sustainable management of coastal areas and ocean resources, including through marine protected areas. Delegates agreed.

Biodiversity: This topic was addressed on Monday morning. Peru suggested that the opening paragraph on this topic be clarified as the message highlighting the extent of protected areas globally was unclear. Switzerland asked for referencing the internationally agreed goals on protected areas in the opening paragraph.

Brazil called for including references to unsustainable land reduction, as well as noting that the Aichi Biodiversity Targets and the Nagoya Protocol can provide opportunities to help prevent biopiracy. Kenya requested clarification on what was meant by genetically modified organisms (GMOs) noting that

his country does not recognize them. Egypt called for including a reference to the creation of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). Norway urged inclusion of the importance of biodiversity corridors. Iran, with Kenya, supported the inclusion of preventing the illegal trade of migratory species.

On Monday evening, discussions on this topic resumed. The US cautioned against the Swiss proposal to reference the internationally agreed goals on protected areas, as it is not a signatory to CBD, saying the goals set by the CBD were not the reason for the US's efforts to increase its protected areas. Co-Chair Campuzano suggested alternative text that stated the goals were recommended by the CBD, however Palau and others noted that the goals were a decision taken by the CBD COP 7 so the text needed to be changed to reflect this. The US said that it could not accept the alternate text with that wording, saying that other alternatives such as "suggested by," "in line with," and "confirmed by" could not be accepted either. Delegates accepted alternative text proposed by the US, which notes that the CBD target for protected areas is 10% of coastal and marine areas. Delegates agreed to delete the reference to GMOs, as Kenya does not recognize them.

Chemicals and waste: On Monday morning, Norway, with Sweden, highlighted the negative effects of some chemicals on human health and the environment, saying that the costs of inaction seem to be huge. Noting the increasing complexity of chemical risks and the expansion of chemicals value chain, Sweden proposed inclusion of reference on gaps, lapses and inconsistencies in government and international policies as well as cooperative practices. Iran and Kenya requested bracketing the Swedish proposal. Colombia, Egypt and Kenya and others stressed the issue of e-waste and Iran called for attention to ensuring waste is reduced, reused and recycled. Highlighting the rapid growth of the production and use of chemicals in developing countries by Norway, Tanzania, with Indonesia, India and others, underscored the need for increasing the capacity for chemicals and wastes management in developing countries in order to achieve the internationally agreed goal.

SHIFTING THE POLICY FOCUS: Delegates addressed this topic on Monday and Tuesday. On shifting the policy focus, Sweden and Ethiopia urged clarification of the first paragraph. Brazil proposed deletion of the statement that there is a causal relationship between rising food prices and biofuel production, while Iran suggested adding sugar cane and jatropha seeds to the list of biofuels. Iran and Bhutan cautioned against implying that cultural practices exert negative pressure on the earth's resources, since many cultural practices are geared towards protection of nature. The US, supported by Ethiopia, quoted high-protein diets as an example of negative cultural impacts, and the Czech Republic suggested retaining the original text. The meeting reached consensus on a modified version of the text, consistent with the underlying report. On drivers that influence environmental degradation, Brazil, supported by US, cautioned against depicting biofuel production as major driving force of food insecurity

During discussions on Tuesday afternoon, on innovative responses being an opportunity for cooperation between countries, the Secretariat confirmed that adopted text was taken

verbatim from the original report. Delegates discussed the use of appropriate vocabulary also familiar to non-native English policymakers. On delivering results, delegates discussed: technology combinations; the fact that technology transfer should occur voluntarily; the combination of sustainable development and poverty eradication in conjunction with establishing low-carbon and resource-efficient green economies; and the importance of providing support for capacity building and creating an enabling environment consistent with the vision of a sustainable world.

SCALING UP PROMISING POLICIES, PRACTICES FROM THE REGIONS: Delegates addressed this section on Monday, where all country proposals were inserted in the text. On Tuesday, delegates finalized which policy responses and amendments were to be included in the final draft. The discussion on this section focused on identifying which policy responses would speed up achieving internationally agreed goals.

Water resources and sanitation: On water resources, Egypt and Tanzania urged, and delegates agreed, that the heading be amended to include sanitation. Indonesia called for the inclusion of the conservation and sustainable use of wetlands as well as referencing pollution reduction in integrated water-resource management efforts. Egypt urged the inclusion of water allocations among competing uses to give priority to basic human needs. They also called for referring to "national-based water-metering and volumetric tariffs."

On which proposals were considered to be policy or policy instruments, Alcamo noted that neither integrated water-resource management including pollution reduction nor water allocations to satisfy basic human needs are policies or policy instruments and they should thus be deleted. He noted that national-based water-metering is not discussed by any of the regions and should therefore be deleted. He said that conservation and sustainable use of wetlands was discussed by four regions, and the proposal should stay. Delegates agreed to follow these suggestions.

Biodiversity: Kenya called for wording to ensure that monetary flows from payment for ecosystems services are "adequate." Norway urged referencing "transboundary," when discussing the use of biodiversity corridors. Egypt suggested inclusion of market instruments as discussed in chapter eight of the underlying report. Turkey urged including sustainable management of protected areas as well as providing sustainable financial mechanisms for protected areas. Kenya noted that the financial mechanisms should allow for predictable financing flows. Thailand called for community incentives and increased awareness of conservation.

Alcamo noted that the following topics are not policies and should therefore be deleted: adequate payments for ecosystem services; provision of sustainable financial mechanisms; provision of predictable financing mechanisms; and increased awareness on conservation and sustainable use of biodiversity.

Alcamo also noted that community incentives, transboundary biodiversity corridors, market instruments and sustainable management of protected areas are considered policies and have been discussed in the underlying report and could thus be included. Delegates agreed to follow Alcamo's suggestions.

Climate change: On climate change, the Czech Republic proposed referring to “environmentally harmful subsidies” in the text on subsidies. Brazil urged inclusion of results-based mitigation actions. Indonesia called for capacity building and financing.

Alcamo said that “environmentally harmful subsidies” is a policy action discussed by the regions and could be kept, while results-based mitigation action is not a policy action and should therefore be deleted. Delegates agreed to accept his suggestions.

Land: Myanmar proposed inclusion of payments for ecosystem services and reducing emissions from deforestation and degradation as well as the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+). Agreeing with Myanmar, India emphasized the need to include agroforestry and silvo-pastoral practices and ensure consistency throughout the text on segments related to forests. Ethiopia recommended rephrasing the heading of the paragraph with “Land.” Upon Alcamo’s suggestion, delegates agreed.

On the proposal by India to place more emphasis on some aspects of forestry and ensure consistency throughout, Alcamo noted that these are not mentioned as a separate topic in the underlying report, nor are agroforestry or silvo-pastoral practices mentioned, thus the suggestion should be deleted. Delegates agreed. On the mention of REDD+ and payments for ecosystems services, delegates agreed with Alcamo’s suggestion to retain this proposal as it is discussed in three of the regional chapters.

Chemicals and waste: Palestine, as an observer, suggested elaborating the three “Rs,” reduce, reuse and recycle, into the five “Rs,” by adding reclaim and recovery. Thailand stressed the need for provision on controlling inappropriate exportation and import of hazardous chemicals and waste. Egypt stressed the need to continue funding efforts to finance waste or chemical activities, and to build synergies among the chemicals and waste conventions, namely the Basel, Rotterdam, and Stockholm Conventions. Colombia favored adding life-cycle analysis as a promising policy option.

Alcamo noted that the following topics are not policies nor are they discussed by regions, and they should therefore be deleted: expanding the three “Rs” to the 5 “Rs”; synergies among waste and chemicals conventions; and funding efforts to finance waste or chemical activities. Delegates agreed. Delegates also agreed to retain the following proposals, following feedback from Alcamo: life-cycle analysis; and controlling the import and export of hazardous chemicals and waste.

Energy: Tanzania, supported by Belarus, proposed adding energy efficiency, but following Alcamo’s suggestion, delegates did not agree this. Belarus further suggested including provisions on increased international cooperation in the areas of transfer and application of energy saving technologies. Sweden underlined the option of low emission zones within cities.

Delegates agreed to accept the following proposals: increased international cooperation; and low emission zones within cities.

Environmental governance: On environmental governance, Belarus and Germany requested clarification on: policy synergy and removal of conflicts; upstream planning; and participation and environmental justice. Germany also felt too much emphasis was put on market- and information-based policies, since many other regulatory policies could also affect changes in human behaviour.

Following guidance from Alcamo, delegates agreed to keep reference to policy synergies and environmental justice. Delegates also agreed to delete reference to upstream planning as none of the regions dealt with this matter.

INNOVATIVE RESPONSES – AN OPPORTUNITY FOR COOPERATION: This section was addressed by delegates on Monday and Tuesday.

Framing environmental goals and monitoring environmental outcomes within the context of sustainable development goal-setting: On Monday, on framing environmental goals and monitoring environmental outcomes within the context of sustainable development goal-setting, Czech Republic, supported by Brazil, suggested: deleting reference that links the agreement on targets and metrics of any sustainable development goals with lessons from MDGs; and favoring an international process to establish a set of sustainable development goals. The US, supported by Tanzania, Belarus and Colombia, emphasized that building on lessons from the MDGs is critical to the possible development of sustainable development goals. Colombia, opposed by Norway, suggested deletion of reference advocating that sustainable development goals should be derived from existing environmental agreements and conventions.

Participants agreed that building on the lessons from the MDGs is critical to the possible development of any sustainable development goals, as proposed by US, and supported by Tanzania, Belarus, and Colombia; and any sustainable development goals metrics should track sustainability progress, strengthen accountability, and facilitate learning. On whether sustainable development goals should be derived from existing MEAs, Colombia, with Norway, suggested substituting the wording of “should” to “could” in order to avoid prejudging and relationship between sustainable development goals and MEAs.

Investing in enhanced capacities and mechanisms at local, national and international levels to achieve sustainability, including through a green economy: On Monday, Republic of Korea called for including the concept of “green growth” alongside green economy. Egypt opposed this suggestion saying there is no common definition yet on green growth. On whether accountability should be strengthened, US suggested deleting “accountability” and replacing it with “data collection and assessment.” Emphasizing financial commitment is integral to “accountability,” Tanzania opposed the US proposal and insisted on retaining “accountability.” It was agreed that accountability is to be strengthened through data collection and assessment. Indonesia proposed that capacity building should be included in the section on innovative responses that provides an opportunity for cooperation, while US proposed deletion of sustainable production and consumption patterns that are grounded in a mind-shift towards sustainability.

On Tuesday, during final deliberations, Republic of Korea again proposed inclusion of “green economy/ green growth” or “promoting green growth” in the context of sustainable development and poverty eradication” as one of the means to achieve sustainability. Czech Republic opposed the proposal, and Egypt declared that the instruction he received from Cairo indicates that “green growth” can only be listed together with the provision “promoting green growth with adequate resources for developing countries,” suggesting it could be deferred to Rio+20. In response, Republic of Korea withdrew the proposal of including “green growth,” saying “we cannot accept linking green growth with support for developing countries.”

Enhancing the effectiveness of global institutions to fulfil human needs while avoiding environmental degradation: On Monday, Sweden proposed additional text to include synergies for the chemicals and waste conventions, and Tanzania and Indonesia suggested adding text on financial resources and capacity building, and data collection and monitoring within the planning process. On Tuesday, Georgia suggested adding a paragraph on strengthening education and awareness-raising on sustainability issues. Germany, with US and Norway, suggested adding “in future IPBES is expected to make an important contribution to the science-policy interface.”

Consistent time series data collection and assessment: On Monday afternoon, Indonesia, Peru, Brazil and others proposed that the paragraph on strengthening access to justice in environmental matters could be deleted, or alternatively, deleting references to human rights and legal instruments in this section. On Tuesday, Germany, and Ethiopia, among others, suggested including access to information and public participation in the topic header. Following the US proposal, participants agreed that the environmental data obtained should be integrated with social and economic data, noting this can possibly be included in national accounts to influence budget allocation.

Deepened and broadened stakeholder participation, together with increased public support for environmental protection: On Monday, Georgia suggested adding a paragraph on strengthening education and awareness-raising on sustainability issues. China, with Canada, suggested not including this reference to ensure consistency between the SPM and the GEO-5 report. Deliberations resumed on Tuesday afternoon. Saying environmental education has “the highest benefit ratio for activities in line with sustainable development,” Iran, with Peru, Bhutan and others, supported Georgia’s proposal and stressed the need to give the proposed text the right credence by including it in a new subsection entitled “strengthening education for and awareness raising on sustainability issues.” Delegates agreed.

Strengthening access to information, public participation in decision making and access to justice in environmental matters: On the final paragraph of the SPM, delegates debated on which adjectives to add to the actions required by the international community to reach agreed goals and targets, in order to convey the urgency, and reached consensus on “urgent, ambitious and cooperative actions.”

Indonesia, Peru, Brazil and others proposed that the paragraph on strengthening access to justice in environmental matters could be deleted or alternately that references to human rights and legal instruments could be deleted from

this section. Germany, and Ethiopia, among others, suggested including access to information and public participation in the topic header. Participants considered the proposals made by Germany and Ethiopia, and agreed on language consistent with Rio Principle 10 that calls for stakeholder involvement at all levels, to strengthen access to information, public participation in decision making and access to justice in environmental matters.

STATEMENT BY THE INTERGOVERNMENTAL MEETING ENDORSING THE GEO-5 SUMMARY FOR POLICY MAKERS

On Tuesday night, Co-Chair Yoo presented a draft text prepared by the Secretariat in the form of a short statement, and requested delegates to consider and endorse the text. After reading the draft statement and a brief discussion on additional text highlighting the efforts of the High-Level Intergovernmental Advisory Panel as well as the Science and Policy Advisory Board, the chapter coordinating lead authors, chapter authors, and reviewers who provided support to GEO-5 and its SPM, Co-Chair Yoo called for a proposal to accept/adopt the statement. After minor amendments suggested by US, Canada and Germany, delegates adopted the statement.

The Statement of the Meeting, recalling the responsibilities of the UNEP GC set out in UN General Assembly resolutions 2997(XXVII), which ask UNEP to review the world’s environmental situation, and the guidance for the GEO reports, contained in UNEP GC decisions 18/27C, 19/3, 20/1, 22/1/B, 23/6 and 24/2, upon its consideration of the draft GEO-5 SPM:

- endorses the GEO-5 SPM;
- invites governments to consider the findings at the twelfth Special Session of the UNEP GC and Global Ministerial Environment Forum;
- affirms that the GEO-5 SPM is a valuable contribution to discussions in preparation for Rio+20;
- invites the UNEP GC to use and discuss the findings of the GEO-5 SPM to inform upcoming discussions for Rio+20; and
- expresses gratitude to the Republic of Korea and the City of Gwangju for hosting the meeting.

REPORT OF THE MEETING

On Tuesday evening, Co-Chair Yoo presented the report on the Intergovernmental Meeting on the GEO-5 SPM (UNEP/GEO5.IGM/3.Report). He requested the Secretariat to complete outstanding editorial corrections. The US suggested an amendment that would convey the appreciation of delegates to the City of Gwangju for hosting, and Peter Gilruth and the Secretariat of GEO-5 for facilitating the event. Norway, supported by US, requested an email containing the final edited version of the report to be sent to delegates upon completion.

SPECIAL EVENT ON “SUSTAINABLE CITIES RESPONDING TO CLIMATE CHANGE”

On Sunday night, Gwangju City Mayor Un-tae Kang hosted a special event on “Sustainable Cities Responding to Climate Change.” The event was facilitated by Arab Hoballah, Chief, Sustainable Consumption and Production, UNEP, who welcomed delegates and dignitaries, noted the importance of the intergovernmental meeting for finding solutions to the environmental challenges represented, and stressed that they may also offer many opportunities.

Mayor Kang spoke of the perseverance of Koreans to transform their country from a recipient to a donor of international aid for the first time in human history. He said the event was organized to: assist in building on the significant achievements made at the Urban Environment Accords (UEA) Summit in 2011; build an international consensus on the need to make the Urban Environment Evaluation Index an internationally binding standard; and explore concrete measures to facilitate the adoption of the Urban Clean Development Mechanism (Urban CDM) as a carbon banking mechanism that offers financial incentives to cities that emit less greenhouse gases than the pre-defined levels.

Gilruth presented on the outlook on the global environment, focusing on the climate change response and the strong link between climate change and the global environment, and the critical solutions that the UEA should offer, such as: collaborations across a giant network of cities; green space contributing to education where young people can learn more about the environment; and the development of indices of urban environmental sustainability to promote the Green City Award to foster green growth.

Hoballah noted the importance of urban environments, stressing that by 2030, 70-80% of the world's population will be concentrated in cities, particularly in Asia. He focused on the increase in: the environmental footprint of cities; atmospheric pollution; high levels of water contamination; and the impact of global waste on resources. He emphasized that cities can also be part of the solution as hubs of knowledge and innovation, as part of a broader ecosystem, and via social and economic dominance with the potential for efficiency.

Kwi-gon Kim, Secretary-General, Urban Environmental Accords Members Alliance (UEAMA), presented on the outcomes of the UEA Gwangju Summit in October 2011, and the Urban CDM, and said the mission of the UEAMA is to launch a worldwide city movement with the slogan of "Green City, Better City" movement to improve urban sustainability through the implementation of the UEA.

Participants then heard a presentation from three panelists: Panelist Anne-Isabelle Degryse-Blateau, Director, UN Development Programme Seoul Policy Center; Nak-pyung Yim, Chair, Korean Federation for Environmental Movement, Gwangju; and, Michael Watters, Head of Climate Change and Energy Section, British Embassy, Seoul.

Degryse-Blateau emphasized that there is an increase in the trend towards urban immigration and pressure on cities through demands on transport and resources. She reflected on the growing recognition not to limit ourselves to the classical CDM modality but to explore other schemes, and proposed the benefits of a city-wide cross-sectoral approach.

Nak-pyung Yim stressed the need for citizens' participation. He urged that cities can revolutionize national movements since they are dynamic agents, regardless of what their central governments may decide. He called for much more local government support and said that Gwangju has shown the need for cities to collaborate with UNEP.

Watters spoke of the experiences of London, UK and stressed its objectives to maximize the opportunities of low carbon cities, reducing CO₂ emissions by 60% in 2025, secure energy supply, and exceed the UK national climate change objectives.

CLOSURE OF THE MEETING

Peter Gilruth thanked the city and delegates for their unrelenting efforts in participating and undertook to report to UNEP's Executive Director on the stellar performance of the GEO-5 Secretariat and panel experts who "took it as far and as high as they could". Co-Chair Yoo closed the meeting at 7.35 pm.

SUMMARY OF GEO-5 SPM

In the summary of the SPM the Intergovernmental Meeting delegates:

On "Critical Thresholds," highlighting the urgent need for action,

- identify a number of consequences already being felt as the earth's thresholds are close to, or already, being exceeded crossed, including:
 - increases in average temperature affecting human health;
 - increased frequency and severity of climatic events; and
 - substantial biodiversity loss;
- note that there is a lack of consistent, reliable time-series data on the state of the environment, and that not only does this hamper increasing the effectiveness of policies and programmes, but also monitoring the drivers of environmental change or their impacts;
- identify a number of areas where internationally agreed goals have only been partially achieved, including atmosphere, land, freshwater, oceans, biodiversity and chemicals and waste; and
- note the increasing need for policy to focus on the underlying drivers that may increase pressure on the Earth's System, which include addressing negative aspects of population growth, production and consumption processes, urbanization and globalization.

On scaling-up successful policies and practices, cite policies, including:

- for water, integrated water resource management, water use efficiency, and water metering;
- for biodiversity, payment for ecosystem services, transboundary wildlife corridors, and sustainable agricultural practices;
- for climate change, removing harmful subsidies, carbon taxes, and emissions trading schemes;
- for land, integrated watershed management, improved forest management, and smart growth in cities;
- for chemicals and waste, registration of chemicals, product redesign, and control of inappropriate import and export of hazardous waste;
- for energy, energy efficiency, increased use of renewable energy, and feed-in tariffs;
- for ocean and seas, integrated coastal zone management and marine protected areas; and
- for environmental governance, policy synergy, increased access to climate justice, and improved goal-setting and monitoring systems.

Delegates also highlight a number of areas where innovative policies are needed to accomplish the internationally agreed goals identified by GEO-5, broadly defined as the need to:

- frame environmental goals and monitor environmental outcomes within the context of sustainable development goal-setting;
- invest in enhancing capacities and mechanisms at all levels to achieve sustainability, including through a green economy;
- enhance the effectiveness of global institutions to fulfil human needs while avoiding environmental degradation;
- ensure consistent time series data collection and assessment;
- deepen and broaden stakeholder participation, together with increased public support for environmental protection;
- strengthen access to information, public participation in decision making and access to justice in environmental matters.

UPCOMING MEETINGS

12th Special Session of the UNEP Governing Council/Global Ministerial Environment Forum: The UN Environment Programme (UNEP) Governing Council/Global Ministerial Environment Forum will, at its 12th special session, focus on the UN Conference on Sustainable Development (UNCSD or Rio+20)-related themes of green economy and international environmental governance and emerging issues. **dates:** 20-22 February 2012 **location:** Nairobi, Kenya **contact:** Jamil Ahmad, UNEP **phone:** +254-20-762-3411 **fax:** +254-20-762-3929 **email:** sgc.sgb@unep.org **www:** <http://www.unep.org/gc/gcss-xii/>

Planet Under Pressure: New Knowledge toward Solutions: This conference will focus on solutions to the global sustainability challenge. The conference will discuss solutions to move societies on to a sustainable pathway and provide scientific leadership towards the UNCSD. **dates:** 26-29 March 2012 **location:** London, UK **contact:** Jenny Wang **phone:** +86-10-8520-8796 **email:** Jen.wang@elsevier.com **www:** <http://www.planetunderpressure2012.net>

UN Conference on Sustainable Development: The UNCSD will mark the 20th anniversary of the UN Conference on Environment and Development (Earth Summit), which convened in Rio de Janeiro, Brazil in 1992. **dates:** 20-22 June 2012 **location:** Rio de Janeiro, Brazil **contact:** UNCSD Secretariat **email:** uncsd2012@un.org **www:** <http://www.uncsd2012.org/>

Ramsar COP 11: This is the 11th meeting of the contracting parties (COP 11) to the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar). **dates:** 6-13 July 2012 **location:** Bucharest, Romania **contact:** Ramsar Secretariat **phone:** +41-22-999-0170 **fax:** +41-22-999-0169 **email:** ramsar@ramsar.org **www:** <http://www.ramsar.org>

Worlds Within Reach: From Science to Policy: This event will mark the 40th anniversary of the International Institute for Applied Systems Analysis (IIASA), and will focus on the global challenges brought by globalization, fundamental shifts in economic and political power, environmental challenges, and unpredictable social conflict. It will also focus on the research needed to address the environmental, social, technological and economic challenges they pose, and look at ways of resolving them. **dates:** 27-29 July 2012 **location:** Vienna and Laxenburg, Austria **contact:** IIASA Conference Secretariat **email:** conference@iiasa.ac.at **www:** <http://www.iiasa.ac.at/conference2012/index.html>

IUCN World Conservation Congress 2012: The Congress theme will be Nature+, a slogan that captures the fundamental importance of nature and its inherent link to every aspect of people’s lives. including Nature+climate, nature+livelihoods, nature+energy and nature+economics. **dates:** 6-15 September 2012 **venue:** International Convention Center **location:** Jeju, Republic of Korea **contact:** Secretariat **phone:** +41-22-999 0336 **fax:** +41-22-999-0002 **email:** congress@iucn.org **www:** <http://www.iucnworldconservationcongress.org/>

Convention on Biological Diversity (CBD) COP 11: The agenda includes consideration of, *inter alia*: the status of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilization; implementation of the Strategic Plan 2011-2020 and progress towards the Aichi Biodiversity Targets; issues related to financial resources and the financial mechanism; and biodiversity and climate change. **dates:** 8-19 October 2012 **location:** Hyderabad, India **contact:** CBD Secretariat **phone:** +1-514-288-2220 **fax:** +1-514-288-6588 **email:** secretariat@cbd.int **www:** <http://www.cbd.int/>

UNFCCC COP18: The 18th session of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) and the eighth Conference of the Parties serving as the Meeting of Parties to the Kyoto Protocol (COP/MOP 8), among other associated meetings, are scheduled to take place in Doha, Qatar. **dates:** 26 November - 7 December 2012 **location:** Doha, Qatar **contact:** UNFCCC Secretariat **phone:** +49-228-815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** <http://unfccc.int>

Launch of the GEO-5 Report: Global Environment Outlook (GEO)-5 will be launched during the course of 2012. **dates:** 2012 (dates to be confirmed) **location:** to be confirmed **contact:** GEO Unit, Division of Early Warning and Assessment, UNEP **phone:** +254 20 762 4546 **email:** matthew.billot@unep.org **internet:** http://www.unep.org/geo/GEO_Meetings.asp

GLOSSARY

CBD	Convention on Biological Diversity
CDM	Clean Development Mechanism
COP	Conference of the Parties
GC	Governing Council
GEO	Global Environmental Outlook
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IFSD	Institutional framework for sustainable development
MDGs	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
Rio+20	United Nations Conference on Sustainable Development (or UNCSD)
SIDS	Small Island Developing States
SPM	Summary for Policy Makers
UNCSD	UN Conference on Sustainable Development (or Rio+20)
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change