



# Mountain Day Bulletin

## A Summary Report of the Durban Mountain Day

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### SUMMARY OF MOUNTAIN DAY: 4 DECEMBER 2011

Mountain Day took place on Sunday, 4 December 2011 during the 17th session of the Conference of the Parties (COP 17) to the UN Framework Convention on Climate Change (UNFCCC), in Durban, South Africa. Mountain Day was organized by the International Centre for Integrated Mountain Development (ICIMOD), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, and the Mountain Partnership Consortium.

The event highlighted the critical role that mountain ecosystems play in climate adaptation and sustainable development as well as the vulnerability of mountains, and those who depend on them, to climate change. Mountain Day assembled two high-level panels of ministers and decision-makers to advocate the value and role of mountains, and to call on COP 17 delegates and global development partners to protect vital mountain ecosystems from the threats presented by climate change. Mountain Day also included parallel sessions on: Mountains, Climate Change from Scientific Evidence to Policy and Adaptation; and Mountains and Adaptation – Challenges and Opportunities with a Vision of Rio+20. A draft “Mountain Day Call for Action” was presented, and was made available for comment on the ICIMOD website. Key messages of the Call include that: mountains are the “water towers” of the world and global hotspots for biodiversity; the value of the ecosystem goods and services derived from mountains is under-recognized, under-valued and poorly compensated; major downstream ecosystems and economies are highly dependent on mountains; international organizations and national governments should introduce policies and financing to support adaptation programmes in mountains for improved livelihoods and sustainability; and global development strategies and policies should recognize, value and create incentives to enhance benefits derived from mountains.

#### A BRIEF HISTORY OF MOUNTAINS, CLIMATE CHANGE, AND SUSTAINABLE DEVELOPMENT

Nearly half the world’s countries have significant mountainous regions. Mountain ecosystems provide more than half of the world’s population with drinking water, and provide water for agriculture, industry, power generation, and other uses for many hundred million others. Additionally, mountains are home to half of the world’s biodiversity hotspots and are home to many threatened and endangered species while also serving as drivers of tourism and resources for recreation.

Mountain regions are amongst the most sensitive to climate change, and receding glaciers are one of the most visible indicators of global change. If current trends continue, many glaciers are expected to disappear completely by the end of the century, potentially leading to catastrophic changes in weather and water availability in surrounding regions that rely on mountain ecosystems.

One of the first and only major international decisions to include language on mountains and mountainous regions was the UN Conference On Environment and Development (UNCED), also known as the Earth Summit. This meeting was held from 3 to 14 June 1992 in Rio de Janeiro, Brazil,

and involved over 100 Heads of State and Government, representatives from 178 countries, and some 17,000 participants. The principal outputs of UNCED were the Rio Declaration on Environment and Development, Agenda 21 (a 40-chapter programme of action), and the Statement of Forest Principles. The UN Framework Convention on Climate Change and the Convention on Biological Diversity were also opened for signature during the Earth Summit. Agenda 21 called for the creation of a Commission on Sustainable Development (CSD) to ensure effective follow-up of UNCED, enhance international cooperation, and examine progress in the implementation of Agenda 21 at the local, national, regional and international levels.

On mountains, chapter 13 of Agenda 21 recognizes the important ecological, economic and social functions of, and services provided by, mountainous regions. It also makes a number of recommendations to governments on mountains, including: promoting erosion control; incentivizing resource conservation; promoting alternative livelihoods; creating protected areas to save wild genetic material; developing early-warning systems and disaster-response teams for hazardous areas; identifying mountain areas threatened by air pollution; and creating information centers on mountain ecosystems including building expertise on sustainable agriculture and conservation areas.

More recently, organizations such as the International Centre for Integrated Mountain Development (ICIMOD) have held dozens of meetings, workshops and conferences on mountains and mountainous regions. One of their most recent meetings, an UNCED associated event, was the International Conference On Green Economy and Sustainable Mountain Development: Opportunities and Challenges in View of Rio+20. ICIMOD, supported by the UN Environment Programme (UNEP) and the International Development Research Centre (IDRC), and held in Kathmandu, Nepal, from 5 to 7 September 2011. Participants discussed the relevance and scope of the green economy in the context of sustainable mountain development. The conference explored strategies, approaches and options for enhancing the role and prominence of mountain systems in regional and international debates and discussions.

The outcome of the conference was the “Kathmandu Declaration on Green Economy and Sustainable Mountain Development.” The Declaration made several recommendations to governments, highlighting, *inter alia*: the establishment of mechanisms to compensate and reward communities for

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mountain ecosystem services and improvement in markets for these services; creating an enabling environment for promoting the green economy and investment in mountain regions; the ecosystem-based management approach; and ensuring access and rights for women and indigenous communities, including valuing and utilizing traditional knowledge and practices.

## REPORT OF MOUNTAIN DAY

**SESSION A: OPENING SESSION:** David Molden, Director General, International Centre for Integrated Mountain Development (ICIMOD), welcomed participants, saying that due to their sensitivity to climate change, mountains are a source of inspiration for addressing climate. He said mountain people are innovators, providing adaptation methods and technology examples replicated in other locations and that experts learn from their indigenous knowledge. But he added that mountain residents are rarely recognized or rewarded for their roles as stewards of sensitive ecosystems and contributors to global adaptation knowledge. Molden lamented that mountains are often forgotten in international climate negotiations, stating that a global mountain agenda should include: focusing adaptation on the poor, marginalized groups and women; bridging of key knowledge gaps; working across boundaries, both national and disciplinary; and promoting global awareness of mountain issues.

Vera Scholz, Head of Climate Change Department, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, noted that mountain regions are divided by borders that climate change and ecosystems do not recognize. She emphasized the need to make livelihoods and value chains climate-proof, and suggested an ecosystem-based adaptation approach and community vulnerability assessments as important steps in this process. Scholz noted that GIZ recently began a project on ecosystem-based adaptation in mountain regions with the United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP) and International Union for Conservation of Nature (IUCN).

Rajendra K. Pachauri, Chair of the Intergovernmental Panel on Climate Change (IPCC), and Director General of The Energy and Resources Institute (TERI), said mountains experienced above average warming in the 20th century and indicated that this is likely to continue. He encouraged focusing on decreasing vulnerability and exposure to disasters, and increasing food and water security for downstream populations and agriculture, especially for those with low adaptive capacity. He said half a billion people in India, and a quarter billion in China are dependent on the Himalayas for water, and warned that due to increased glacial melting, the Ganga, Indus, and Brahmaputra rivers could become seasonal in the near future.

Molden then announced the launch of three ICIMOD reports, the: Hindu-Kush Himalayan (HKH) Climate Change Synthesis Report; HKH Ice Report and Database; and HKH Snow Report and Database.

Hem Raj Tater, Minister of Environment, Nepal, discussed issues of sustainable mountain development, encouraging collaboration to ensure the mountain agenda is integrated into ongoing climate negotiations and the UN Conference on Sustainable Development (UNCSD, or Rio+20) preparatory process.

**SESSION B: MINISTERS' PANEL: MOUNTAIN AGENDA, CLIMATE CHANGE AND RIO+20: CALL FOR ACTION:** A Ministers' panel, moderated by Rajendra K. Pachauri, brought together different regional perspectives.

Pema Gyamtsho, Minister of Agriculture and Forest, Bhutan, relaying that mountains provide water, food and medicine, as well as a spiritual sustenance, underscored the connections between mountain ecosystems and other ecosystems. He stressed the need for: collaboration between upstream and downstream efforts; sharing of progress made in Bhutan; inclusion of mountains on the agenda of the United Nations Framework Convention on Climate Change (UNFCCC) and Rio+20 preparatory process.

René Castro Salazar, Minister of Environment, Energy and Telecommunication, Costa Rica, highlighted Costa Rica's activities to address the effect of climate change in mountainous regions, including a commitment to carbon neutrality by 2021 and annual investment of 1.5-2% of gross domestic product (GDP) on mitigation, and noted that reforestation projects have now outpaced deforestation. Salazar discussed reciprocal benefits resulting from the partnership with Bhutan and Benin, including shared experiences on ecotourism and agriculture.

While participants stressed the need for immediate global support for mountain regions, Hem Raj Tater opined that focusing on adaptation and sustainable development in mountainous areas, and aiming to bring these activities to Rio+20, should be a higher priority.

Pema Gyamtsho, Minister of Agriculture and Forests, Bhutan, said we cannot move the mountain agenda forward without recognizing that challenges in one area can directly or indirectly affect other regions with different sets of challenges, and that coordination is key.

Pachauri urged mountain states to organize themselves internationally to share resources and unite their political voice, citing the Alliance of Small Island States' (AOSIS) success in raising awareness on islands. He then reiterated the value of protecting mountain biodiversity for medicinal and other purposes.

**SESSION C: POLICY/DECISION-MAKERS' PANEL: GLOBAL, REGIONAL AND NATIONAL POLICIES AND APPROACHES FOR SUSTAINABLE MOUNTAIN DEVELOPMENT IN A CHANGING CLIMATE:** David Molden presented the draft Mountain Day Call for Action, which recognizes key attributes of mountains and their influence on surrounding ecosystems and human settlements, including that: mountains are the "water towers" of the world and global hotspots for biodiversity; the value of the ecosystems goods and services derived from mountains is under-recognized, under-valued and poorly compensated; and major downstream ecosystems and economies are highly dependent on mountains. It also made recommendations to national, regional and global processes, including that: international organizations and national governments should introduce policies and financing to support adaptation programmes in mountains for improved livelihoods and sustainability; and global development strategies and policies should recognize, value and create incentives to enhance benefits derived from mountains.

Responding to Molden's call for comments on the Draft, participants emphasized: the reciprocal contribution of low-land and mountain ecosystems; inclusion of mitigation programs; ensuring availability of financing to people at all levels of vulnerability; and promotion of indigenous knowledge, technology transfer, and capacity building. Molden said further feedback would be welcome and that the Draft Call would be placed on ICIMOD's website for further comment.

Alfredo Guillet, Ministry of Foreign Affairs, Italy, pointed out weaknesses in sectoral approaches, citing missing data and lack of capacity to integrate existing data into systematic frameworks. He addressed the need to improve South-South collaboration, stressing the role of partnerships to share lessons learned and transfer technology.

Krishna Gyawali, Secretary, Ministry of Environment, Nepal, stated that ecotourism can be used to raise awareness of mountain issues. Acknowledging the borderless nature of environmental challenges, he advocated the creation of a platform to bring stakeholders together, including both mountain countries and non-mountain countries, supporting governance of mountain ecosystem sustainability.

Yannick Glemarec, Director of Environmental Finance, UNDP, reiterating the importance of sharing knowledge on a South-South basis, described UNDP activities that address risk management, ecosystem-based adaptation, and energy delivery. Glemarec acknowledged that financing is a

source of frustration, stressing that while money is available, understanding and adhering to strict eligibility criteria is often burdensome.

Marco Onida, Secretary General, Permanent Secretariat of the Alpine Convention, spoke about the successes of mountain treaties, focusing on the Alpine and Carpathian Conventions. He explained that with increased political will, these treaties could be used to address climate change, biodiversity loss and the preservation of cultural heritage.

Molden then noted both the commonalities and differences amongst mountain regions and their respective challenges, and urged raising awareness of the mountain agenda outside of the mountain community.

Javed Ali Khan, Director General, Ministry of Environment, Pakistan, underlined flash floods and avalanches as challenges to mountain regions. He discussed the benefits of an alliance between Pakistan, Bhutan and Nepal that promotes sharing experiences on projects that have benefitted mountain communities.

In the ensuing discussion, participants proposed bringing countries together to speak with a single voice on mountain issues and inquired about opportunities for different conventions to coordinate efforts.

Mary Barton-Dock, Director of Environment, World Bank, said the World Bank views climate change in terms of its effects on poverty. The challenge in this regard, she said, is that climate change limits options to address poverty, as well as options to pursue sustainable development. Barton-Dock explained that the World Bank has invested over US\$66 billion in sustainable mountain development around the world and is part of the Pilot Program for Climate Resilience, which has many projects running in mountainous countries.

## PARALLEL SESSIONS

### SESSION D1: MOUNTAINS, CLIMATE CHANGE FROM SCIENTIFIC EVIDENCE TO POLICY AND ADAPTATION:

Eklabya Sharma, ICIMOD, highlighted the research presented in the newly launched HKH Climate Change Synthesis Report indicating the interrelationship between mountain and downstream ecosystems. He shared significant trends described in the report such as: annual surface air temperature increase; glacier shrinkage; increased species extinction and biodiversity loss; and impacts on human health.

André Jol, Head of Group for Vulnerability and Adaptation, European Environment Agency, explained that although it is difficult to have consistent climate projections, trends could be used as indicators for spatial planning. He shared initiatives in the EU to address impacts of climate change, including research projects, an information clearinghouse, and the adoption of adaptation strategies in 12 countries.

Baptist Chatré, Alpine Convention, said the Alpine Convention is a legally-binding document on climate change that turned into an operational plan for implementation, providing a framework of policies and practices. He commented on the Carpathian Convention, tasked to provide project guidance as well as to explore cooperation possibilities with other international organizations.

Dirk Hoffmann, Bolivian Mountain Institute, showed that actual scenarios in Andean mountain regions are higher than model projections, due to a combination of natural phenomena and human intervention. He discussed how the impact of climate change on glaciers and the hydrological cycle underscore the link between rural and urban areas. He called for additional studies to: strengthen resilience and adaptation measures; focus on future scenarios; and build research alliances between the North-South and South-South. He concluded that livelihoods should be the center of attention in all efforts.

Ilhom Rajabov, Climate Change Centre, Tajikistan, discussed how climate change has impacted Tajikistan, especially in glacial retreat and how this impacts the agriculture sector and in turn negatively impacts livelihoods and human development. He outlined the need for improved:

information on the status of glaciers; research on climate change impacts, monitoring and observation of glaciers; impact assessment and adaptation knowledge; regional cooperation; financial support for investment in capacity building; and financial support for investment in infrastructure.

Paolo Cristofanelli, Ev-K2-CNR, spoke on the newest scientific evidence and its relation to action on the ground. He explained that measurements from 2006-2010 indicated very high levels of pollution in the Himalayas from far-off sources. He said the presence of black carbon combined with other pollutants can seriously affect snow cover and that biomass fuels can exacerbate this problem and negatively impact human health. He then described a collaborative project aimed at improving scientific knowledge on mountain ecosystem health, creating an information sharing system to assist decision-makers, and building capacity.

David Molden then introduced a panel of policy makers to comment on the presentations.

Xia Guang, Ministry of Environmental Protection, China, said climate change has affected water availability and biodiversity in mountain areas in China and that better incorporating scientific knowledge into decision-making is key. He recommended: utilizing the precautionary principle; improving scientific knowledge of climate change in mountain areas; promoting ecosystem conservation; and addressing over-cultivation in mountain areas.

Dinesh Chandra Devkota, Former Vice-Chair, National Planning Commission, Nepal, called for more country-level data on the Himalayan region to enable policymakers to create and improve national adaptation policies, and improved methods to bring indigenous knowledge "up" to policymakers and international knowledge "down" to local populations.

B.M.S. Rathore, Joint Secretary, Ministry of Environment and Forests, India, said that although our understanding of climate change and mountain ecosystems is improving, knowledge gaps remain a problem. He stressed the need for robust national adaptation strategies, and said that without regional cooperation frameworks, progress will remain elusive. He closed by underscoring that more international attention on mountains is needed, as are alliances of mountainous countries and improved communication with broader scientific and civil society communities.

Eduardo Durand, Ministry of Environment, Peru, highlighted the importance of mountains to his country and said the current global economic system is incompatible with sustainable development, calling the current gold mining rush socially and environmentally disastrous for Peru.

In the ensuing discussion, one participant suggested that river basin level analyses might be more helpful than national level analyses. Another asked whether informal or civil society movements had emerged where international agreements on mountain management are lacking. A third stressed the serious impact of black carbon on glacier melt, calling it a national or regional issue that does not require global agreement. The last question was on how to better bridge the science-policy divide, to which panelists suggested better and more frequent translations of scientific evidence into language policymakers can better understand. Molden concluded the afternoon sessions by calling for agreement to move the draft of the Call for Action forward as a formal result of this meeting.

### SESSION D2: MOUNTAINS AND ADAPTATION – CHALLENGES AND OPPORTUNITIES WITH A VISION OF RIO+20:

Mario Boccucci, UNEP, chaired this session. Vera Scholz described three approaches to adaptation identified by GIZ, including: climate-proofing value chains, which would address both poverty and climate change; ecosystem-based adaptation, a natural resource-based approach as an alternative to infrastructural adaptation measures; and community-based adaptation, a bottom-up approach focused on community participation and perception of changes in local environments. Scholz suggested local ownership should be strengthened through capacity development and cross-border cooperation.

Madhav Karki, on behalf of ICIMOD, UNEP and the Mountain Partnership Secretariat, said the current decline of natural resources, food insecurity, persistent poverty and ecosystem degradation is proof that conventional economic models have failed. He identified ways in which the mountain community can contribute to adaptation activities and a green economy, including: recognizing the global environmental and economic significance of mountains' natural capital; removing trade barriers and price distortions on green goods and services of mountain regions; promoting transboundary approaches to global funding and incentive mechanisms; and strengthening green national accounting in GDP estimates.

Asuncion St. Clair, Centre for International Climate and Environmental Research (CICERO), and Ritu Verma, ICIMOD, discussed opportunities and policies for gender and climate change adaptation strategies in mountain contexts, highlighting the importance of incorporating gender into research and capacity building projects. Verma then highlighted examples of gender-biased mal-adaptation to climate change and climate change-related disasters. She said the Himalayan Climate Change Adaptation Programme (HICAP) aims to empower women and ensures proper resource allocation to gender incorporation into projects and decision-making.

Alton Byers, The Mountain Institute, presented on a project in Peru that brings together practitioners, scientists and policy makers. He explained that Peru created a glaciological unit, by installing drain pipes, canals and valves, to address rising glacial lake levels and flooding as well as to use water downstream for hydropower and agricultural purposes. He also stressed the need for community participation when collecting scientific information and in project development stages.

Olman Serrano, FAO Rome, discussed three adaptation projects that took place in mountain ecosystems. Underlining their importance, he said: 35% of water in Chile comes from the Maipo Valley; 90% of the population of central Asia relies on water stored in glaciers and snow; and in Uganda, the population density in mountains is more than double the density of the lowlands.

Basanta Shrestha, ICIMOD, discussed the cryosphere, areas of the Earth's surface where water is in icebound form, saying it is the greatest communicator of climate change, citing evidence on glacial melting, loss of snow cover, and increased frequency and magnitude of natural disasters. Shrestha discussed how regional assessments can guide adaptation activities. He concluded by explaining that access to cryospheric information services and regional databases would improve understanding of climate change, and influence adaptation and mitigation measures.

In the ensuing discussion, Gyan Chandra Acharya, Permanent Representative of Nepal to the United Nations and Coordinator for the Least Developed Country Groups at UN-Chair, stressed raising the political profile of mountains and making sure they are represented at side events. J.W.H. Ferguson, University of Pretoria, said in order to reach major players in the Rio+20 process, current scientific information on mountain ecosystems needs to be translated into digestible information for politicians. Participants further discussed, *inter alia*: bringing the mountain agenda to Rio+20 and to a wider net of policy makers; addressing mountains at the regional and national level; presenting current information in a way communities can integrate into their daily lives; involving local people not just in projects, but also in research; and the need for interdisciplinary information.

Boccucci closed the session, and Mountain Day, at 4:22pm.

## UPCOMING MEETINGS

**International Mountain Day:** International Mountain Day aims to create awareness about the significance of mountains, the opportunities and constraints facing mountain development, and promote partnerships that aim to improve the health of mountain ecosystems and communities. **date:** 11 December 2011 **location:** global **contact:** ICIMOD **e-mail:** ngurung@icimod.org **www:** <http://www.fao.org/mnts/en/>

**Eye on Earth Summit:** The Eye on Earth Summit, Pursuing a Vision, is being organized under the theme "Dynamic system to keep the world environmental situation under review." This event will launch the global environmental information network (EIN) strengthening initiative and address major policy and technical issues. The Summit is co-organized by the UN Environment Programme (UNEP), Environment Agency Abu Dhabi, European Environment Agency, among others, and funded by the United Arab Emirates. **dates:** 12-15 December 2011 **location:** Abu Dhabi, United Arab Emirates **contact:** UNEP Secretariat **e-mail:** EoE@ead.ae **www:** <http://www.eyeonearthsummit.org/>

**Second Intersessional Meeting for UNCS D:** The first meeting of the Preparatory Committee (PrepCom I) of the UN Conference on Sustainable Development (UNCS D, or Rio+20) called for three intersessional meetings to be convened ahead of the June 2012 event. The Organization of Work is available on the webpage for the meeting. **dates:** 15-16 December 2011 **venue:** UN Headquarters, Conference Room 1, North Lawn Building **location:** New York, United States of America **contact:** UNCS D Secretariat **e-mail:** uncsd2012@un.org **www:** <http://www.uncsd2012.org/rio20/index.php?>

**Third Intersessional Meeting For UNCS D:** As called for at the first PrepCom of the UN Conference on Sustainable Development (UNCS D, also called Rio+20), three intersessional meetings will be convened, in addition to three PrepComs, to prepare for the June 2012 UNCS D event. **dates:** 26-27 March 2012 **venue:** UN Headquarters **location:** New York, United States of America **contact:** UNCS D Secretariat **phone:** +1-212-963-8102 **e-mail:** uncsd2012@un.org **www:** <http://www.uncsd2012.org/rio20/index.php?page=view&type=13&nr=46&menu=25>

**Third PrepCom for UNCS D:** On 4 November 2011, Dilma Rousseff, President of Brazil, announced a proposal to change the dates to 13-15 June 2012 for PrepCom III and 20-22 June 2012 for the UNCS D, in order to allow for highest-level participation. The previously scheduled dates were 28-30 May 2012 for PrepCom III and 4-6 June 2012 for the UNCS D. **dates:** 13-15 June 2012 [tentative] **location:** Rio De Janeiro, Brazil **contact:** UNCS D Secretariat **e-mail:** uncsd2012@un.org **www:** <http://www.uncsd2012.org/>

**UN Conference on Sustainable Development (UNCS D):** The 2012 UNCS D meeting is also referred to as Rio+20. The UN General Assembly, in December 2009, adopted a resolution calling for a UNCS D to be convened in Brazil in 2012. This meeting will mark the 20th anniversary of the UN Conference on Environment and Development (UNCED), which convened in Rio de Janeiro, Brazil. The General Assembly resolution specifies that a three-day PrepCom should convene in May 2010, a two-day PrepCom should convene in February-March 2011, and a three-day PrepCom should convene immediately before UNCS D. **dates:** 20-22 June 2012 [tentative] **location:** Rio De Janeiro, Brazil **contact:** UNCS D Secretariat **e-mail:** uncsd2012@un.org **www:** <http://www.uncsd2012.org/>

**CBD COP 11:** The 11th meeting of the Conference of the Parties (COP 11) to the Convention on Biological Diversity (CBD) is organized by the CBD Secretariat. The High Level Segment will be held from 17-19 October 2012. The provisional agenda includes consideration of: 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; issues related to cooperation, outreach and the UN Decade on Biodiversity; operations of the Convention; and more. **dates:** 8-19 October 2012 **location:** Hyderabad, India **contact:** CBD Secretariat **phone:** +1 514 288 2220 **fax:** +1 514 288 6588 **e-mail:** secretariat@cbd.int **www:** <http://www.cbd.int/meetings/>