



## SUMMARY OF THE WORLD MOUNTAIN FORUM: 23-24 MAY 2014

The World Mountain Forum (WMF) took place from 22-24 May 2014 in Cusco, Peru. The meeting was preceded by a pre-conference set of events, including a public inauguration in the evening on 22 May. This report focuses on the sessions from 23-24 May. Gathering over 200 participants, the Forum provided a platform to promote sustainable mountain development (SMD). The Forum convened sessions on four key topics: climate change; family farming; mountain communities; and mountain cities. These sessions included a particular focus on water and food security, sustainable investment and climate change adaptation. Following the Forum, participants took part in local field trips.

The Forum is a collaborative effort of eight partners: the Swiss Agency for Development and Cooperation (SDC); Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN); Albertine Rift Conservation Society (ARCOS); International Centre for Integrated Mountain Development (ICIMOD); University of Central Asia; Foundation for the Sustainable Development of Mountain Regions (FDDM); Centre for Development and Environment, University of Berne; and the University of Zurich. It was hosted by the Government of Peru and co-organized by the UN Environment Programme (UNEP), the UN Educational, Scientific and Cultural Organization (UNESCO) and the Food and Agriculture Organization of the UN (FAO). Most of these partners are members of the Mountain Partnership (MP). The WMF aims to bring together SMD stakeholders from around the world, promote collaborative action and foster political dialogue, with an overall goal of articulating concrete actions and plans for concerted efforts to address the plight of mountain ecosystems and communities.

Throughout the Forum, WMF 2014 showcased and discussed available local, regional and global experience in mountain development, and identified opportunities and challenges for global SMD. Its outcomes are expected to inform other relevant global initiatives and events, including the post-2015 development agenda, progress towards sustainable development goals (SDGs) and climate negotiations at both the 20th meeting of the Conference of the Parties (COP20) to the United Nations Framework Convention on Climate Change (UNFCCC) in Lima, Peru, in December 2014 and COP21, scheduled for Paris, France, in 2015.



Cusco City Hall Convention Center

## A BRIEF HISTORY OF SUSTAINABLE MOUNTAIN DEVELOPMENT INITIATIVES AND MEETINGS

Nearly half the world's countries have significant mountainous regions. These regions are home to about 850 million people, and provide more than half of the world's population with water for domestic use, agriculture, industry and power generation, among other uses. Additionally, mountains are home to half of the world's biodiversity hotspots and many threatened and endangered species, which attract tourism and create recreation opportunities.

Yet many mountain regions suffer from dire poverty, widespread land degradation, inequitable land rights, and are already enduring severe negative impacts from climate change. 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

### IN THIS ISSUE

A Brief History Of Sustainable Mountain Development Initiatives And Meetings . . . . .	1
World Mountain Forum Report . . . . .	3
Session 1: Climate Change . . . . .	3
Session 2: Family Farming . . . . .	5
Session 3: Mountain Communities . . . . .	6
Session 4: Mountain Cities . . . . .	7
Session 6: Policy Dialogue . . . . .	8
Closing Of The Forum . . . . .	
Upcoming Meetings . . . . .	10
Glosary . . . . .	11



glaciers are expected to disappear completely by the end of this century, potentially leading to catastrophic changes in water availability for large parts of the world.

The first major international decision to address the issue of mountains and mountainous regions was at the UN Conference on Environment and Development (UNCED), also known as the Earth Summit, held from 3-14 June 1992 in Rio de Janeiro, Brazil. One of the principal outputs of UNCED was Agenda 21, a 40-chapter programme of action. On mountains, Chapter 13 of Agenda 21 recognizes the important ecological, economic and social functions of, and services provided by, mountainous regions. It makes a number of recommendations to governments on mountains, including: promoting erosion control; promoting alternative livelihoods; developing early-warning systems and disaster-response teams for hazardous areas; and creating information centers on mountain ecosystems to build expertise on sustainable agriculture and conservation areas. In its capacity as the lead agency on mountains within the UN system, the FAO was made the Task Manager of Chapter 13 in 2003.

**INTERNATIONAL YEAR OF MOUNTAINS 2002:** By its resolution 53/24, the UN General Assembly proclaimed 2002 as the International Year of Mountains (IYM), with the objective of raising international awareness about mountains, their global importance, the fragility of their resources, and the necessity of sustainable approaches to mountain development. The launch of the IYM was held in New York at UN Headquarters on 11 December 2001.

IISD RS coverage of the launch of the International Year of Mountains can be found at: <http://www.iisd.ca/sd/mountains/>

**INTERNATIONAL MOUNTAIN DAY:** In 2002, during the “UN International Year of Mountains,” the UN General Assembly designated 11 December, from 2003 onwards, as “International Mountain Day.” FAO was designated as the coordinating agency for the preparation of this celebration and is mandated to lead its observance at the global level.

**INTERNATIONAL CONFERENCE ON SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT IN MOUNTAIN REGIONS (SARD):**

At this conference, held from 16-20 June 2002 in Adelboden, Switzerland, participants examined the challenges of SARD in mountain regions, with a focus on four themes: the roles and tasks of agriculture; good practices for SARD in mountains; access to resources; and fair conditions of work. The Adelboden Declaration calls on governments, inter-governmental and other international organizations, as well

as major groups of civil society and other stakeholders, to develop and improve policies and actions to respond to the challenges of SARD in mountains in a participatory way.

IISD RS coverage can be found at: <http://www.iisd.ca/sd/mountains/sard/18june.html>

**MOUNTAIN PARTNERSHIP:** The Mountain Partnership (MP) was founded by the Governments of Italy and Switzerland, FAO and UNEP and launched at the World Summit for Sustainable Development (WSSD) in Johannesburg, South Africa, in 2002. Subsequently, four meetings of the MP have been held.

The first Global Meeting of the MP was held in Merano, Italy from 5-6 October 2003. It provided a unique forum in which to identify common, needs, priorities and concerns and to explore key issues related to the structure, membership and governance of the Partnership.

The second meeting was held in Cusco, Peru from 28-29 October 2004. The two-day meeting provided Partnership members the opportunity to exchange experiences, review progress and chart the future course of the MP and its dynamic core, the “Partnership Initiatives.” The Cusco Conference endorsed the governance of the Partnership set out in the Organization Membership and Governance document and adopted the Cusco Framework for Action. Participants also affirmed their collective commitment to the goals of SMD through the Declaration of the Andes.

The third Global Meeting took place in Rio de Janeiro, Brazil, on Tuesday, 19 June 2012, on the sidelines of the Rio+20 summit. The event was aimed at, *inter alia*: sharing lessons and best practices from joint action over the past ten years; identifying appropriate strategic objectives for effectively promoting SMD; and building the future cooperative efforts of the MP on a synergistic, inclusive and committed foundation. Three paragraphs (210, 211 and 212) on mountains were included in the Rio+20 Outcome document, “The Future We Want.”

The fourth meeting took place in Erzurum, Turkey from 17-19 October 2013. During the meeting, participants addressed: the new MP Strategy and Governance; mountains in Rio+20 and the post-2015 SDGs; the Mountain Forum knowledge platform for SMD; regional coordination mechanisms; and the selection of the Steering Committee. Thematic working groups considered how to put the MP into practice.

IISD RS coverage of the Fourth Global Meeting of the MP can be found at: <http://www.iisd.ca/mountain/gmmp4/>



L-R: José Félix Pinto-Bazurco, Ministry of Foreign Affairs, Peru; Ambassador Hans-Ruedi Bortis, Switzerland; and Efraín Samochuallpa Solis, Cusco Regional Government, Peru



### INTERNATIONAL CONFERENCE ON THE GREEN ECONOMY AND SUSTAINABLE MOUNTAIN DEVELOPMENT: OPPORTUNITIES AND CHALLENGES IN VIEW OF RIO+20:

This UNCSA-associated event was hosted in Kathmandu, Nepal, from 5-7 September 2011, by ICIMOD, supported by UNEP and the International Development Research Centre (IDRC). Participants discussed the relevance and scope of the green economy in the context of SMD. The “Kathmandu Declaration on Green Economy and Sustainable Mountain Development” made several recommendations to governments, calling for, *inter alia*, the establishment of mechanisms to compensate and reward communities for mountain ecosystem services and improvement in markets for these services and efforts to ensure access and rights for women and indigenous communities, including valuation and utilization of traditional knowledge and practices.

IISD RS coverage can be found at: <http://www.iisd.ca/ymb/uncsd/gesmd/>

### LUCERNE WORLD MOUNTAIN CONFERENCE:

This conference took place from 11-12 October 2011 in Lucerne, Switzerland, and was co-organized by the SDC and the Swiss Federal Office for Spatial Development (ARE) within the framework of the MP, with support from the MP Secretariat, MP Consortium members and UNESCO. The conference presented regional and global experiences in mountain development since UNCED and identified challenges and opportunities for the future of global SMD. Among the themes discussed were: the role of the green economy in mountains; institutional frameworks for sustainable development and poverty alleviation in mountains; the importance of mountains to the Rio +20 summit; and a ‘Plan of Action’ to secure renewed political commitment for SMD.

**MOUNTAIN DAY:** The first Mountain Day took place on 4 December 2011 during UNFCCC COP17, in Durban, South Africa. 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.

IISD RS coverage of Mountain Day can be found at: <http://www.iisd.ca/climate/cop17/md/>

**MOUNTAIN DAY 2:** “Mainstreaming Rio+20 outcomes in the UNFCCC processes for prosperous, resilient, and sustainable mountain ecosystems and communities,” was held in Doha, Qatar, on 3 December 2012, on the sidelines of COP 18. The discussion sessions focused on: climate change stories from different mountain regions of the world; integrated management of mountain water resources; and the role of mountains in food security and livelihoods.

IISD RS coverage of Mountain Day 2 can be found at: <http://www.iisd.ca/climate/cop18/md/html/crsvol194num2e.html>

## WORLD MOUNTAIN FORUM REPORT

### OPENING ADDRESSES

The World Mountain Forum (WMF) convened on Friday, 23 May and Saturday, 24 May. In an opening address on Friday morning, José Félix Pinto-Bazurco, Ministry of Foreign Affairs, Peru, described the need for dialogue exchanges on sustainable mountain development (SMD) in order to contribute to international efforts, including the definition of the post-2015 development agenda, Convention on Biological Diversity (CBD) Conference of the Parties (COP) 12 and UNFCCC COP20.

Ambassador Hans-Ruedi Bortis, Switzerland, highlighted the consequences of climate change in mountain regions, including for water availability. Noting that problems and impacts have been sufficiently identified, he called for scientists, universities and the nonprofit and private sectors to work together on solutions.

Efraín Samochuallpa Solis, Cusco Regional Government, Peru, stressed that the Andean mountains are sacred to local inhabitants. He called for a participative and inclusive approach to community development, and highlighted the endangered status of the condor, an emblematic species in Andean culture.

Miguel Saravia, Consortium for Sustainable Development of the Andean Ecoregion (CONDESAN), said that the WMF aims to “transform words into action” through dialogue and exchange at the Forum as well as the production of policies, actions and management instruments by participants following the meeting. He underscored the participatory nature of the WMF, noting ideas could be submitted in writing throughout the meeting for incorporation in the dialogue.

### SESSION 1: CLIMATE CHANGE

**Key talks:**  
**Introduction to climate change adaptation experience**

**in mountains:** On Friday morning, André Wehrli, Swiss Agency for Development and Cooperation (SDC), introduced the session on climate change adaptation experiences in mountainous environments.

Pema Gyamtsho, Opposition Leader, National Assembly of Bhutan, and former Minister of Agriculture and Forests, underscored that “climate change and mountain issues know no political boundaries.” He outlined characteristics of Bhutan that increase its climate change vulnerability, including its high number of glacial lakes and dependence on climate-sensitive sectors such as agriculture and hydropower, and also described the country’s Gross National Happiness metric, including its focus on the environment.

Carlos Amat y León Chávez, Universidad del Pacífico, Peru, outlined Peru’s diverse climates, ecosystems, and biodiversity, noting the country is home to the world’s driest desert and the world’s highest precipitation. He stressed that biodiversity



Miguel Saravia, CONDESAN



Carlos Amat y León Chávez, Universidad del Pacífico, Peru



Blanca Jiménez-Cisneros, IHP, UNESCO

management requires a consideration of variability, and described the demographic pressures facing Peru. He called for changes to the current model of economic development, noting that growth in gross domestic product (GDP) does not equate to increases in happiness.

**Water resources:** Anil Mishra, International Hydrological Programme (IHP), UN Educational, Scientific and Cultural Organization (UNESCO), moderated the session on water resources and climate change. He noted that melting glaciers may lead to short-term water increases but long-term water shortages.

Blanca Jiménez-Cisneros, IHP, UNESCO, presented an overview of water security in a changing climate. As an Intergovernmental Panel on Climate Change (IPCC) author, she described new tools for “detection and attribution” that allow the IPCC to determine changes to water systems and identify the causes of these changes. Among these, she highlighted findings that climate change has led to the loss of permafrost, glaciers and snowpacks. She also underscored the need to address non-climatic drivers of water system changes and vulnerability.

Nadine Salzmann, University of Zurich, presented on climate change adaptation programs in mountain regions in Peru and India. She discussed efforts to generate baseline data in climatology, glaciology and hydrology in the Andes and Himalaya in order to determine appropriate adaptation measures. She noted the importance of early-warning systems for glacial lake outburst floods (GLOFs) and of integrating scientific results with human dimensions in mountain landscapes, commenting that sustainable adaptation is a process, not a “three-year project.”

Ronal Cervantes, Climate Change Adaptation Programme (PACC), Peru, discussed the impact of climate change on water resources in southern Peru. Clarifying that water is both a resource and a living being in the Andean “cosmovision,” he called for adaptation strategies that bridge traditional knowledge and scientific knowledge, including the traditional use of small lakes as water reservoirs.

Following the presentations, participants and panelists discussed, among other things: the temporal and spatial variability of water availability and the need for water storage systems; water as a transboundary challenge; the need for local participation in developing early-warning systems; and the scalability of small-scale and traditional water storage technologies. One participant underscored the need to monitor not only climate change impacts but also the effectiveness of adaptation solutions.

**Ecosystems:** The sessions on ecosystems was moderated by Rosalaura Romeo, MP Secretariat, FAO.

Musonda Mumba, UNEP, discussed the intricate relationship between ecosystem services and human well-being, noting that “ecosystems sustain development, and development in turn impacts ecosystems.” She highlighted, *inter alia*, ecosystem-based adaptation (EBA) approaches, which use biodiversity and ecosystem services as part of an overall adaptation strategy to help people and communities manage the negative effects of climate change. Mumba called for mainstreaming SMD into the SDGs.

Manuel Peralvo, CONDESAN, presented a project on adaptive responses to environmental changes in the Andes, which he explained involves long-term monitoring of Andean ecosystems through the Gloria Andean network. He described the project’s context, including the need for longer-term data series and standardized, Andes-specific indicators and measures, and outlined the network’s early outcomes from its 18 sites in six countries.

Pablo Dourojeanni, EBA in Mountain Ecosystems project, described the Peruvian part of a three-country project on EBA measures. He outlined the project’s three approaches to determine EBA measures: a model-based approach using vulnerability and impact assessments; an inductive approach, involving bottom-up participatory methods; and a deductive approach, using a top-down, rule-based assessment. Among the outcomes, he noted that all three approaches produced similar EBA measures.

Stephen Mugabi, Ministry of Water and Environment, Uganda, discussed a pilot project in Uganda that took a territorial approach to climate change with the goal of increasing resilience to climate change impacts and reducing regional emissions. Among key project achievements were the preparation of an Integrated Territorial Climate Plan for the Mbale region; capacity building to mainstream climate change interventions within development planning; a climate change policy and investment package; and a carbon finance scheme.



Stephen Mugabi, Ministry of Water and Environment, Uganda

**Panel and dialogue on climate change adaptation in mountain regions:** Lupe Guinand, Planning for Climate Change Project (PlanCC), Peru, moderated the panel discussion on climate change adaptation in mountain regions.

Khayrullo Ibodzoda, State Committee on Environmental Protection, Tajikistan, noted the challenges that climate change poses to key sectors in Tajikistan, including hydropower, forestry and agriculture. He described actions taken to adapt to climate change, including: a pilot project on climate resilience; capacity building; and the inclusion of climate change adaptation issues in national development action plans.

On the adaptation of mountainous regions to climate change, Dhruvad Choudhury, ICIMOD, identified as knowledge gaps the lack of understanding of downstream implications and the ways mountain people perceive change.





L-R: José Félix Pinto-Bazurco, Ministry of Foreign Affairs, Peru; Silveiro Choquenaira, farmer, Peru; Alberto Paniagua, Peruvian Trust Fund for National Parks and Protected Areas, Peru; Eusebio Ingol Blanco, National Water Authority, Peru; Dhrupad Choudhury, International Centre for Integrated Mountain Development (ICIMOD); and Khavrullo Ibdzoda, State Committee on Environmental Protection, Tajikistan

He urged for the translation of scientific understanding into actionable knowledge, particularly by governments and policymakers in the short-term.

Silveiro Choquenaira, farmer, Peru, described significant changes in wind, frost and rainfall patterns in the Huacrahuacho catchment, which he explained have borne “terrible” consequences for communities, agriculture and livestock. He described the water management practices of local farms, including ponds in the upper levels of the basin to supply consistent water to lower levels, and called for more scientific research on mitigating and adapting to climate change.

On how mountain authorities can incorporate stakeholders in decision-making for water resource management, Eusebio Ingol Blanco, National Water Authority (ANA), Peru, pointed to the establishment of six pilot basins in Peru, each with integrated management plans and governing boards that enable participatory approaches to water management. He also noted the development of Peru’s policy and national strategy for water resources, involving five pillars of management on: water quantity; water quality; opportunities; culture of water; and adaptation to climate and drastic events.

Alberto Paniagua, Peruvian Trust Fund for National Parks and Protected Areas, Peru, addressed the question of the costs of adaptation and management, stating that financing is “not only about money” but also involves setting priorities, assigning budgets and recognizing community values such as reciprocity. He said governments often have funds, but budgets need to be redesigned to address priority areas such as climate change. He pointed to local involvement as critical to effective financing, noting that many effective solutions to climate change are low cost.

José Félix Pinto-Bazurco, Ministry of Foreign Affairs, Peru, addressed the role of foreign affairs officials in climate change adaptation, pointing to the complexity of international negotiations on climate change and Peru’s role in drafting text for UNFCCC negotiations. He underscored the need for finance for climate change activities, and highlighted efforts by Peru and others to develop creative national contributions to mitigation and adaptation, including through projects focused on mountain ecosystems.

In the question period that followed, panelists and participants discussed, *inter alia*: prioritizing global issues such as climate change in concert with fighting poverty and

improving access to education; the need for interdisciplinary, intersectoral coordination within governments; the need for a value shift away from consumerism in order to achieve SMD; and the commitment of local and indigenous farmers to the long-term health of their lands, compared with politicians’ short-term interests.

## SESSION 2: FAMILY FARMING

**Opening remarks:** The second thematic session of the WMF, on family farming, held on Friday afternoon, was moderated by Sonia Salas, Rural Agro-industrial Network (REDAR), who noted that 2014 is the UN’s International Year of Family Farming.

Flavia Nabugere, Minister of Water and Environment, Uganda, underscored the connections between water, food security and family farming. Highlighting the impacts of weather variability and uncertainty on small-scale and family farming, including damage caused by landslides, floods and loss of forest cover, Nabugere underscored the need for interventions such as climate smart agriculture, rainwater harvesting, early-warning systems in mountains and soil-conserving crops.

John Preissing, FAO, discussed the intersections between mountains and family agriculture and the challenges climate change poses to agricultural environments. He noted, *inter alia*, that small producers often lack the guarantees of land ownership as well as access to finances, goods, transportation and markets.

**Presentations:** Dhrupad Choudhury, ICIMOD, presented lessons learned for family farming in mountain regions from Bay leaf value chain development in Nepal and India. Noting that mountain



Flavia Nabugere, Minister of Water and Environment, Uganda

producers are vulnerable to socioeconomic change and market dynamics, he described how value chain interventions can lift the economic status of small producers.

Aida Jamangulova, Agency of Development Initiatives (ADI), Kyrgyzstan, described a project to support rural women's agricultural development in Kyrgyzstan based on the creation of women's "self-help" groups. Through the initiative, which, among other things, provided agricultural training, high-quality seeds and food supplements to women's groups, she said women gained knowledge, status within families, improved family nutrition outcomes and profits.

Dirk Hoffmann, Bolivian Mountain Institute (BMI), outlined the social component of a project on biodiversity and land use interactions in high Andean wetlands and peat bogs, noting, among other things, the multiple identities held by many individuals, such as herders and small-scale miners. He underscored that local Aymara communities have a long history of adaptation, underpinned by endurance, risk minimization strategies and high social cohesion, but cautioned that traditional knowledge is being "uprooted" by climate change.

Speaking on behalf of Margarita Huayhua, APMR-Royal Anthropological Institute, Adela Carlos Rios, APMR, discussed research showing how the indigenous management of natural resources has guaranteed the productivity and maintenance of soil and water, and called for indigenous knowledge and perspectives to inform SMD.

Julio Postigo, Assessments of Climate Change Impacts and Mapping of Vulnerability to Food Insecurity under Climate Change to Strengthen Household Food Security with Livelihoods' Adaptation Approaches (AMICAF) Project, discussed the AMICAF Project in the Philippines and Peru. He noted, *inter alia*, that at current temperatures, education has the greatest impact on reducing food insecurity vulnerability.

In the ensuing discussion, panelists noted: demographic loss from mountain communities and the need to improve opportunities in rural areas to prevent it; and the need for protected areas that are co-managed by local populations and take into account traditional uses of protected lands.

**Policy dialogue:** Carlos Amat y León Chávez, Universidad del Pacífico, moderated the policy dialogue, with panelists John Preissing, FAO, Flavia Nabugere, Minister of Water and Environment, Uganda, and Pema Gyamtsho, Opposition Leader, National Assembly of Bhutan.

Panelists addressed the policies needed to improve incomes and quality of life for mountain populations and address youth migration as well as the required financing and institutional arrangements. Among other things, Preissing encouraged investments to support small businesses, including transportation, technical assistance and market services. Nabugere commented that the question is not only why people move away from mountains, but why they choose to live in or move back to mountains, even in dangerous conditions. Gyamtsho underscored that mountain communities should

be recognized as custodians of culture, tradition, food and ecosystems, stressing they need "compensation, not subsidies," and "credit, not handouts."

In discussions, participants and panelists commented on, *inter alia*, payments for ecosystem services as a strategy to share costs and benefits and compensate mountain communities, how governments can work with indigenous communities using ancestral knowledge, and the impacts of mining on mountain communities and ecosystems. They also considered the need for: associations of small producers; educational opportunities in mountain areas; recognizing that communities can develop independently from the state; and diversified income opportunities in rural mountain areas, including high-value, low-impact tourism.

### SESSION 3: MOUNTAIN COMMUNITIES

On Saturday morning, WMF participants split into two parallel thematic sessions, one on mountain communities and the other on mountain cities. The session on mountain



Aida Jamangulova, Agency of Development Initiatives (ADI), Kyrgyzstan



Leónidas Rozas Mora, Salkantay Radio, Cusco

communities began with a presentation by Leónidas Rozas Mora, Salkantay Radio, Cusco, who spoke about the history of Incan cultures and languages, and called for, among other things, a strong justice system and a "head-on battle" against corruption in order to realize the goals of the WMF.

#### Presentations:

Manuel Peralvo,

CONDESAN, moderated a series of presentations on governance and local knowledge in mountain communities.

Leila Sotoudeh, Mountain Environment Protection Society, Iran, discussed efforts to conserve mountain ecosystems through local community participation in Bozghoush, Iran, which suffers from rangelands degradation, soil erosion and socioeconomic crises. She stressed that long-term monitoring and support from policymakers at regional and national levels are crucial for SMD.

Dhrupad Choudhury, ICIMOD, discussed the role of participatory natural resource management in the Kailash sacred landscape of the Hindu Kush-Himalayas. He said the key to addressing climate change and enabling long-term conservation is innovative local livelihoods and inclusive



Dhrupad Choudhury, ICIMOD

development, and stressed the importance of equity, transparency and mutual benefits in such processes.

Danut Ungureanu, Romanian Mountain Forum, discussed the diversification of economic activities in mountain communities of the Romanian



Carpathians. Noting high unemployment rate in mountain communities, he called for the diversification of livelihood options in rural areas.

Azamat Isakov, Central Asian Mountain Partnership (CAMP) Alatau, Kyrgyzstan, discussed the assessment of high mountain pasture conditions for grazing in Kyrgyzstan. Among other things, he said that climate, not overgrazing, was the main driver of pasture degradation, but that a quota system for grazing could help restore degraded pastures.

Sarah-Lan Mathez, Centre for Development and Environment, University of Bern, Switzerland, highlighted local environmental knowledge as a key input for the sustainable development of Andean communities. She noted that some traditional knowledge is being lost, in part due to a lack of replacement by younger generations, and called for greater understanding of the factors affecting traditional knowledge.



Sarah-Lan Mathez, Centre for Development and Environment, University of Bern

**Panel discussion:** Julio Postigo, AMICAF Project, moderated the panel. In opening statements, panelists discussed the impact of mining at local, regional and national government levels.

Jean Bourliaud, World Mountain People Association, noted that mining can be a source of income for governments and can benefit local communities if the correct relationships with mining companies are established from the beginning.

Francisco Medina, Project on the Sustainable Management of the Earth-Apurimac (Proyecto MST-Apurimac), Peru, said that enabling diverse economic activities to allow sustainable development depends on finding “complex solutions to complex problems.” He noted that improving the negotiation capacities of mountain communities is a crucial first step to empowerment.

Askar Beshimov, Ministry of Foreign Affairs, Kyrgyzstan, noted that mining is a key source of state and local revenue in Kyrgyzstan, providing income that helps integrate mountain communities into the market economy. He stressed the importance of striking a balance between attracting foreign investment and protecting the interests of local communities.

Rodrigo Ruiz Rubio, Proyecto Qhapaq Ñan, Peru, stressed the importance of community consultation in mining activities in the mountains. He called for a collective vision of land management that prioritizes community engagement.

Wivine Ntamubano, East African Community, noted that people are linked with their land, stressing that “when the land is sick, people are also sick.” She called for solutions to the problem of rural-to-urban migration, and for aboriginal peoples to be a part of their government.

In response to questions, panelists discussed, *inter alia*: the risks and examples of mining activities contaminating local water sources; the need for dialogue and equitable benefit sharing agreements between transnational companies and local communities; concerns that global governance mechanisms often benefit corporations; and the need for the productive diversification of rural livelihoods. Several participants commented on the vulnerability stemming from losses of cultural identity in communities, and one noted that long-term commitments are needed to restore pride in culture.

#### SESSION 4: MOUNTAIN CITIES

On Saturday morning, the mountain cities session began with opening presentations, and participants then split into parallel working groups, one on sustainable investment in mountain cities, and the other on water and mountain cities (this report covers the latter). This was followed by a plenary discussion.

**Opening presentations:** The session on mountain cities was moderated by Miguel Saravia, CONDESAN.

Andrés Felipe Betancourth, CONDESAN, focused his comments on the Andean region. He noted that although wealth has been extracted from mountains through mining operations, the “real wealth” of mountains has been undervalued and must be recognized.

Speaking in both Spanish and Quechua, David Quispe Orozco, Mayor, Municipality of Ccorca, Cusco, shared with participants the indigenous Andean understanding of the natural world, noting that mountains are considered deities and water is “born in the mountains.” Orozco shared a video that highlighted threats to the region posed by mining concessions and activities, and showed statistics from across the country on the increase of territory claimed as mining concessions, although he clarified that he is not against mining operations, if conducted responsibly.



L-R: Wivine Ntamubano, East African Community; Rodrigo Ruiz Rubio, Proyecto Qhapaq Ñan, Peru; Julio Postigo, Assessments of Climate Change Impacts and Mapping of Vulnerability to Food Insecurity under Climate Change to Strengthen Household Food Security with Livelihoods' Adaptation Approaches (AMICAF) Project; Francisco Medina, Proyecto MST, Apurimac; Askar Beshimov, Ministry of Foreign Affairs, Kyrgyzstan; and Jean Bourliaud, World Mountain People Association

Augusto Castro, Pontificia Universidad Católica del Peru (PUCP), addressed the intersection of energy, development and culture in the context of mountains and cities. He began with the question, “why do mountains not speak Spanish?” and explained that mountain regions are incorporated in many cultures, speaking many languages, but are not integrated in modern cities and societies. He called for rethinking the development paradigm.



Augusto Castro, Pontificia Universidad Católica, Peru

Participants discussed, among other things, details of mining concessions and extraction, including the reduction of revenues from mining in spite of concession area expansion, legal tools to address the growth of the mining sector in the region and the need to rethink urbanization processes in mountain areas.

#### Parallel working group on water and mountain cities:

This working group was moderated by Eusebio Ingol Blanco, ANA, Peru.

Bert de Bièvre, CONDESAN, spoke on a project on water availability and shortages under different climate change scenarios, outlining the use of 24 global climate models (GCM), in conjunction with population growth scenarios, water balances and other factors. Among the findings, he noted analyses of population growth scenarios, in conjunction with water balances and other factors, suggest that population growth can be more influential than climate change in driving water shortages.

Sofía Castro, PUCP, presented on urban water security in the context of climate change, focusing on Lima, Peru. She underlined the mismatch between the geographic availability of water and the concentration of populations in Peru, noting, for example, that 70% of the population lives in coastal areas with only 2% of the country’s available water resources.



Sofía Castro, Pontificia Universidad Católica (PUCP) Peru

Carlos Pretelt, Universidad Nacional de Colombia, presented an environmental impact

assessment of plans to expand water storage for the city of Bogota through dam construction in Chingaza National Park, Colombia. While the project would create water storage benefits for the city, he cautioned it would flood over 10% of the basin. As the new dam might have a limited lifespan, he cautioned this approach entails a high environmental impact to attain a temporary solution.

Miguel Carlos Gómez, Universidad Continental de Huancayo, Peru, shared his work on risks to water supply systems in mountain cities, with a focus on Huancayo in central Peru. Carlos Gómez noted the city’s relative dependence on groundwater, compared with surface water, has

increased since 2004, and said it was unclear how long this could be sustained. He emphasized the importance of social engagement by researchers.

Iván Lucich Larrauri, Supervising Agency for Water and Sanitation Services (SUNASS), Peru, spoke on water management in mountain urban areas in Peru. He cautioned against seeing infrastructure as the sole solution to water issues, noting the need to address vulnerability caused by factors including urban growth and climate variability. Lucich Larrauri highlighted the potential for payments for ecosystem services (PES) to provide the funds needed to reduce vulnerability in upstream communities.

**Plenary discussion:** In the plenary session moderated by Andrés Felipe Betancourth, CONDESAN, Ingol Blanco summarized the presentations on water, noting, *inter alia*, uncertainty in climate change projections at the local level and water vulnerability in cities resulting from a lack of urban planning.

Marisa Young, Fundación Agreste, Argentina, and MP Steering Committee, highlighted key points on sustainable investments in mountain cities, noting, among other things: models of investment and urbanization in mountains; stakeholder interventions in resource management and administration; mining policies; and resource management tools. She highlighted that sustainable investment involves both natural resource and socio-economic aspects, pointing to the need to integrate culture, natural resources and low- and highland areas in investment decision-making.

In discussions, participants considered, among other things, monitoring climate change effects to assist farmers, urban planning that takes into account resource availability and the need for both “hard” and “soft” infrastructure for water resources. Other themes discussed included the: need for companies to invest in ecosystem protection and management; types of legal structures that can guide payments for ecosystem services; the importance of building trust; and the need to pay attention to citizen rights and duties. Betancourth said urbanization is not just a matter of infrastructure but a “spatial realization of social phenomena,” noting new relationships must be developed between humans and nature, and among humans.

#### SESSION 6: POLICY DIALOGUE

On Saturday afternoon, participants met in plenary for a policy dialogue session moderated by Mariano Castro, Vice-Minister of the Environment, Peru. The session began with summaries of the four thematic sessions. Several of the moderators addressed specific outcomes for policy-making, knowledge development and implementation activities.

André Wehrli, SDC, summarized the climate change session, noting the discussion took place in the context of global change caused by both climatic and non-climatic drivers. He said participants had identified, *inter alia*, the need to: reduce outmigration from mountains to avoid the loss of “guardians” of mountain



André Wehrli, Swiss Agency for Development and Cooperation (SDC)



ecosystems and culture; recognize mountains as water towers; and close knowledge gaps through research that incorporates traditional and current local knowledge and practices.

On the family farming session, Rosalaura Romeo, MP Secretariat, FAO, recalled that mountain farming is primarily family farming, and is increasingly managed by women. Among the session's outcomes, she highlighted the importance of: enabling environments, including supportive policies, land tenure security and women's rights; removing the stigma and racial discrimination against mountain people; co-management of protected areas and benefit-sharing with local populations; and mountain committees as a forum to facilitate political lobbying.

Eric Nanchen, Foundation for the Sustainable Development of Mountain Regions (FDDM), presented outcomes from the mountain communities session, emphasizing that mountain communities are the living guardians of ancestral, traditional and current local knowledge, but remain vulnerable to food insecurity, pressures for outmigration and global change, and may be conservative and reticent to change. He pointed to the underrepresentation of mountain communities across political levels, noting the need for their access to decision-making power.

Miguel Saravia, CONDESAN, presented the outcomes of the mountain cities session, noting participants had identified mountain cities as a place where the limits of current development models are seen, noting the challenges of reconciling development and investment. He underscored the need to "break through paradigms" of development that leave fourth-fifths of the world's population in poverty, and noted that governing the growth of mountain cities is central to protecting the goods and services provided by mountains, such as water, food, energy and recreation opportunities. He reissued a call for action, noting the need to focus on positive examples of change, rather than on the problems.

**High-level panel:** High-level representatives participated in a panel moderated by Mariano Castro, Vice-Minister of the Environment, Peru.



Rosalaura Romeo, Mountain Partnership Secretariat, FAO

José Félix Pinto-Bazurco, Ministry of Foreign Affairs, Peru, highlighted the need for mountain governance at national and regional levels, and for the inclusion of mountain issues at international negotiations such as the UNFCCC.

Flavia Nabugere, Minister of Water and Environment, Uganda, discussed the importance of mainstreaming mountains into the SDGs and institutionalizing mountain issues in every country. She committed to take action to address water insecurity in Uganda by promoting rainwater harvesting, and to advocate for the mountain agenda for Africa at ministerial and other regional and global meetings.

Askar Beshimov, Deputy Minister of Foreign Affairs, Kyrgyzstan, voiced support for the idea of writing off developing mountain countries' debt in exchange for the sustainable management of mountains.

Marisa Young, Fundación Agreste, Argentina, and MP Steering Committee, highlighted the important role of civil society in providing information access and mobilizing scientific, technical and social resources to strengthen mountain communities' capacities.

Pema Gyamtsho, Opposition Leader, National Assembly of Bhutan, stressed the importance of making decisions with a long-term and integrated perspective. He called for mountain organizations in every region to work together to define a clear set of statements about SMD.

Sam Kanyamibwa, ARCOS (Uganda) and MP Steering Committee, highlighted the ways in which the mountain agenda was recognized in the Rio+20 outcome document, and called for action on these outcomes.

Kavruno Ibodzoda, Director, State Committee on Environmental Protection, Tajikistan, described environmental programs and initiatives in his country and noted that mountain countries can make significant contributions to green growth.

**Summaries and next steps:** Following the high-level panel, Miguel Saravia, CONDESAN, and André Wehrli, SDC, presented a visual matrix summarizing the outcomes of discussions and contributions under each of the four session themes. Many contributions spanned session themes, including: under knowledge production, the need to address uncertainty and engage with traditional knowledge and local practices; for policy development, to integrate policies and involve mountain communities in policy development; and for implementation practices, to use participatory approaches and seek local ownership. On general outcomes, Saravia highlighted, *inter alia*, the need to raise the profile of mountains and advocate for mountains in the post-2015 development agenda and the SDGs.



L-R: Marisa Young, Fundación Agreste, Argentina; Flavia Nabugere, Minister of Water and Environment, Uganda; Askar Beshimov, Ministry of Foreign Affairs, Kyrgyzstan; Kavruno Ibodzoda, State Committee on Environmental Protection, Tajikistan; José Félix Pinto-Bazurco, Ministry of Foreign Affairs, Peru; Pema Gyamtsho, Opposition Leader, National Assembly of Bhutan; and Stephen Mugabi, Ministry of Water and Environment, Uganda



L-R: Miguel Saravia, CONDESAN; Mariano Castro, Vice-Minister of Environment, Peru; and Flavia Nabugere, Minister of Water and Environment, Uganda

Participant questions focused on the need for, *inter alia*: participation from the private sector and worker associations; placing ecological health above “excessive” capital gain and uncontrolled growth; better water management; high-quality media communications on mountain issues; and “environmental remediation” in addition to adaptation and mitigation as responses to climate change. Participants also called for a stronger political presence on mountain issues and a convention on mountains.

Wehrli reiterated the importance of reaching out beyond mountain-focused sectors and organizations with these messages. Saravia noted that some areas of work remain, pointing to the absence of ministries of finance at the WMF and the need for further work on citizenship and communications. Vice-Minister Castro highlighted the “significant opportunity” provided by Peru’s hosting of the UNFCCC climate negotiations in December 2014 to highlight mountain issues to the global community.

#### **CLOSING OF THE FORUM**

Miguel Saravia, CONDESAN, thanked the individuals and institutions that made the World Mountain Forum possible, particularly the Peruvian government who hosted the event. He remarked that to achieve SMD, “one can’t treat mountains as objects, one has to feel them.”

Flavia Nabugere, Minister of Water and Environment, Uganda, highlighted that mountains serve as warning signs for negative changes, and stressed that governments must pay attention and establish policies that conserve mountain ecosystem health. She noted that mountains are the source of ecosystem goods and services used in the lowlands, and



L-R: Mariano Castro, Vice-Minister of Environment, Peru; Miguel Saravia, CONDESAN; and Flavia Nabugere, Minister of Water and Environment, Uganda

stressed that any interventions and investments in mountain communities must take into account local and traditional knowledge. She stated that the resolutions reached at WMF will serve as a starting point for the inclusion of mountain concerns in COP20 resolutions. She confirmed that Uganda will host the next World Mountain Forum in 2016.

Mariano Castro, Vice-Minister of the Environment, Peru, described the WMF in Cusco as a “living school” that has shown the challenges and potential of SMD. He concluded by calling for a “common mountain agenda that goes beyond the continents.” The meeting closed at 6:53pm.

#### **UPCOMING MEETINGS**

**World Landslide Forum 3:** The third World Landslide Forum, organized by the International Consortium on Landslides and the China Geological Survey, will convene in Beijing, China, to provide an information and academic exchange platform for landslide researchers and practitioners. The purpose of the Forum is to present the achievements in landslide risk reduction in promoting the sustainable development of society. The Forum aims to create an opportunity to promote worldwide cooperation on the issue of landslides, and to share new theories, technologies and methods in the fields of landslide surveys and investigations, monitoring, early warning, prevention and emergency management. **dates:** 2-6 June 2014 **location:** Beijing, China **venue:** China National Convention Center **www:** <http://www.wlf3.org/>

**The First African Mountains Regional Forum:** The 1st African Mountains Regional Forum, organized by ARCOS, Africa Mountain Partnership members, the East Africa Community, UNEP, the Austrian Development Agency and SDC, will meet in Arusha, Tanzania, from 16-18 September 2014 as part of the global programme, “Promoting SMD for Global Change” (SMD4GC). This meeting aims, *inter alia*, to share experiences in addressing conservation and development challenges, including water, energy, food security and climate change in African mountain regions, with the overall objective of enhancing collaboration and framing a regional agenda for SMD challenges in African mountains. **dates:** 16-18 September 2014 **location:** Arusha, Tanzania **contact:** Salome Alweny **email:** [salweny@arcosnetwork.org](mailto:salweny@arcosnetwork.org) **www:** [http://www.arcosnetwork.org/images/News/AMRF/AMRF14\\_1st\\_Announcement\\_rvvd\\_1.pdf](http://www.arcosnetwork.org/images/News/AMRF/AMRF14_1st_Announcement_rvvd_1.pdf)





Group photo of World Mountain Forum participants

**The Ninth European Mountain Convention:** The 9th European Mountain Convention, organized by Euromontana and the Basque government, will meet in Bilbao, Spain, to discuss “Quality from the mountains: prosperity for people and territories.” Since 1998, Euromontana has organized European Mountain Conventions every two years to bring together mountain stakeholders from across Europe to address mountain issues. This 9th meeting aims to explore new opportunities created for mountain products by new European policies. The event will provide a platform to discuss local development strategies, to exchange ideas on the best ways to market mountain products and to explore ways to integrate mountain family farming marketing strategies. **dates:** 22-24 October 2014 **location:** Bilbao, Spain **venue:** Palacio Euskalduna **contact:** Euromontana **email:** info@euromontana.org **www:** <http://www.euromontana.org/en/agenda/european-mountain-conventions/la-qualite-montagnarde-prosperite-pour-la-population-et-les-territoires.html>

**UNFCCC COP 20 and CMP 10:** The 20th session of the Conference of the Parties to the UNFCCC (COP 20) and the 10th session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 10) will take place in Lima, Peru. **dates:** 1-12 December 2014 **location:** Lima, Peru **contact:** UNFCCC Secretariat **phone:** +49-228-815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** <http://unfccc.int>

**Climate Change Innovation and Resilience for Sustainable Livelihood:** This international conference, organized by the City University of New York, Colorado State University, The Small Earth Nepal and Department of Hydrology and Meteorology of Nepal, will focus on innovative approaches from the physical and social sciences to support economic development in mountain and lowland South Asia. The meeting aims to convene scientists, government officials and development workers in nonprofit and for-profit enterprises to discuss promising new approaches for integrating science, policy and action in climate change. The conference themes are: climate change; water resources management; agriculture and livestock; and gender and livelihood. **dates:** 12-14 January 2015 **location:** Kathmandu, Nepal **contact:** Dilli Bhattarai, Conference Secretary, The Small Earth Nepal **email:** dilli@smallearth.org.np **www:** <http://climdev15.org/>

**Fourth International Women of the Mountains Conference:** The Fourth International Women of the Mountains conference is being co-organized by Utah Valley University and the International University of Kyrgyzstan to promote sustainable development in mountain areas worldwide. This meeting will address the critical issues women and children living in mountainous regions face across the globe and provide a forum to discuss gender equality. The conference continues the tradition established with the

previous International Women of the Mountains Conferences held in Orem, Utah, in 2007 and 2011 and in Puno, Peru, in 2012 to strengthen the involvement of North American mountain communities with the MP. The meetings themes include, among others, health, education and economic issues of women and children. **dates:** 7-9 October 2015 **location:** Orem, Utah, US **contact:** Baktybek Abdrisaev, Utah Valley University **email:** abdrisba@uvu.edu **phone:** +1-801-863-8351 **www:** <http://www.womenofthemountains.org/index.php/component/content/article/8-the-program/the-program/52-2015-conference>

**World Mountain Forum 2016:** The next World Mountain Forum will convene in 2016 to continue discussions on local, regional and global experience in mountain development, and strategies to further SMD. **dates:** 2016 **location:** Uganda **contact:** Mountain Forum Global Node Office **phone:** +51-1-618-9400 **email:** mtnforum@mtnforum.org **www:** <http://www.mtnforum.org/>

## GLOSSARY

ANA	National Water Authority, Peru
ARCOS	Albertine Rift Conservation Society (ARCOS)
CONDESAN	Consortium for the Sustainable Development of the Andean Ecoregion
EBA	ecosystem-based adaptation
FAO	Food and Agriculture Organization of the UN
FDDM	Foundation for the Sustainable Development of Mountain Regions
GLOF	glacial lake outburst flood
ICIMOD	International Centre for Integrated Mountain Development
IHP	International Hydrological Programme
IPCC	Intergovernmental Panel on Climate Change
UNFCCC	UN Framework Convention on Climate Change
UNEP	UN Environment Programme
UNESCO	UN Educational, Scientific and Cultural Organization
PES	payments for ecosystem services
SDC	Swiss Agency for Development and Cooperation
SDGs	sustainable development goals
SMD	sustainable mountain development
WMF	World Mountain Forum