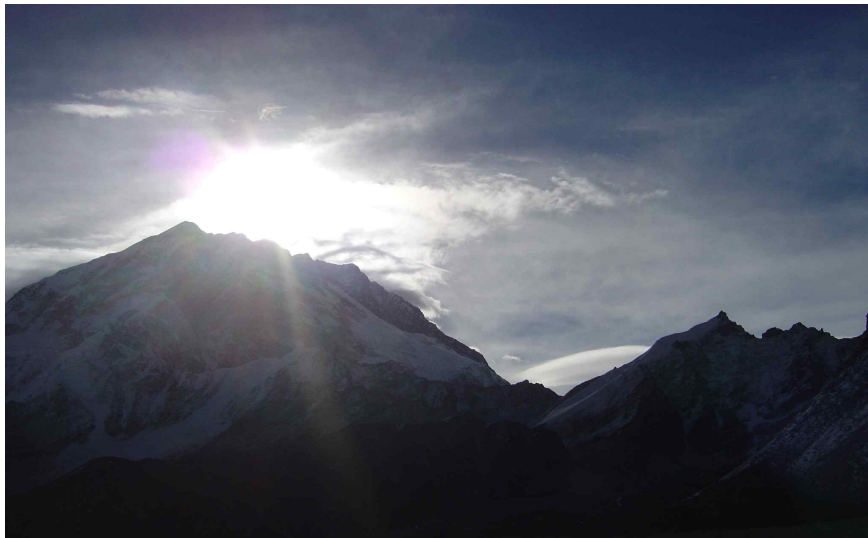




**DRAFT PROGRAM  
International Conference**

**“Mountains: energy, water and food for life.  
The SHARE project: understanding the impacts of climate change”**

**Milan  
27-28 May, 2009**



**PROMOTING COMMITTEE**

- L. Maiani ( President, CNR)
- A. Da Polenza (President, Ev-K2-CNR)
- C. Bouvier (Director, UNEP ROE)
- D. McGuire ((Mountain Partnership Secretariat UN-FAO)
- E. Croci ( Comune di Milano)
- E. Belloni (DGCS – MAE)
- C. Clini (Min. Amb.)

**SCIENTIFIC COMMITTEE**

- G. Cavaretta (DTA \_ CNR)
- S. Fuzzi (CNR –ISAC)
- L. Barrie (WMO)
- V. Ramanathan (SIO)
- A. Navarra (CMCC)
- R. Valentini (Univ. Della Tuscia)
- F. Giorgi (ICTP)
- B. Villavecchia (Environment and Energy Dep. AMA)

**ORGANIZING COMMITTEE**

- F. Steffanoni (Ev-K2-CNR)
- F. Sernia (CNR)



## CONTEXT and BACKGROUND:

Over the past six years, since the declaration of 2002-International Year of Mountains by the United Nations and the Johannesburg World Summit on Sustainable Development, thanks to greater global environmental awareness and significant developments made in high altitude scientific research, the recognition of mountain environments as some of the world's most important ecosystems has increased dramatically. Already at the Rio de Janeiro Earth Summit in 1992, Chapter 13 of Agenda 21 confirmed the need for sustainable development in mountain regions, given mountains' crucial role as sources of water, energy, biodiversity, minerals, forest products and agricultural products. 10% of the world's population depends directly on mountains, especially for freshwater, while millions more benefit indirectly from such mountain resources.

In 2007, the Intergovernmental Panel on Climate Change (IPCC) confirmed that climate change is not only happening, but that global warming is affecting many physical and biological processes, which in turn affect the availability of water resources, food security and human health. Mountain ecosystems were identified in a recent report of the General Assembly of the United Nations as key indicators of such effects of climate change, especially in terms of vulnerable resources like biodiversity and water.

Over the past century, the size of glaciers in the Alps and the Caucasus mountains has been reduced by half. In Africa, only 8% of the largest glacier in the mountains of Kenya still remains. If this trend continues, by the end of the 21<sup>st</sup> century, many mountain glaciers will have completely disappeared, and along with them, vital sources of freshwater. The Himalayan glaciers, like those of the Alps, the Andes, etc., act as water towers for entire populations. These frozen reservoirs not only provide water for drinking and cooking, but also for irrigation and livestock, industry and hydro-electric power to millions, if not billions, of people. Furthermore, winter and summer mountain tourism, a primary source of livelihoods in many mountain regions, also depends on the state of the environment, with its increasingly unpredictable climate trends and widely changing seasonal variations.

Mountains constitute an extraordinary platform for monitoring climate change and its effects. They can be considered representative of vast spatial areas, areas often only theoretically uncontaminated. Furthermore, mountains themselves influence local and global climates, although their role in this sense is not entirely understood. **Only through high altitude research and environmental monitoring might we increase our knowledge and help guide future policy choices to ensure the conservation and sustainable development of mountain ecosystems, key to our wellbeing on the planet.**

Governments, local administrators, international organizations and the scientific community all need reliable information on the health of mountain environments so as to develop strategies that might reverse the trend of global warming, or at least mitigate its worst effects. Scientific researchers have a responsibility to the public to raise awareness on the implications of climate change in mountain areas. Their role in helping define policies for integrated mitigation and adaptation actions cannot be underestimated.

**In Lombardy, highlands constitute over 40% of the region, while in Italy they make up the three quarters of the country (hills: 41.6%. mountains: 35.2%). On a global level, mountains amount to 25% of the Earth's surface.**

**At the 2015 World Expo, with its focus on food security and other major environmental issues, the important role of mountains cannot be ignored. Climate change is first and foremost among the Expo topics that could benefit from the contributions made by mountain research, as are other key themes central to Italy's motivation to host the Expo. Italy's Foreign Minister, Franco Frattini, has declared that these global problems, already subject of intense international debate, will take center stage when Italy hosts the 2009 G8 meeting as well. Those issues include:**

- Environmental protection
- Sustainable development
- Renewable energies
- Protection of biodiversity
- Combating desertification
- Prevention of natural disasters
- Access to water for all

**The problem of food security must be dealt with as a basic prerequisite to sustainable development. In order to address this issue, however, we need to better comprehend climate change processes and their impacts on ecosystems and environmental services in order to develop appropriate adaptation strategies at the local, national and global levels. A thorough understanding of our changing climate and the effects on fragile ecosystems and natural resources will only be possible if research and monitoring data from mountain areas is taken into account.**

Finally, it is also significant that 2015 marks the year by which 189 governments of the world agreed to meet the Millennium Development Goals and Expo 2015 will certainly be used as an opportunity to showcase Italy's contributions to their achievement. In line with the "No Excuse 2015" Campaign, which testifies that the goals are realistic and achievable, Italy therefore has an obligation to make sure all steps it takes between now and 2015 move in the direction of specific MDGs, like **Eradicating Extreme Poverty and Hunger**, and **Ensuring Environmental Sustainability**.

## WHAT WE PROPOSE:

Ev-K2-CNR Committee, in collaboration with the City of Milan and the Municipal Commission for Mobility, Transportation and the Environment, intends to help pave the way towards the 2015 Expo. With their SHARE program, Ev-K2-CNR are world leaders in integrated environmental research and monitoring in mountain areas. By directly involving researchers,



scientific and public institutions and other stakeholders in discussions on the world's major environmental challenges, chances of improving environmental governance are greatly enhanced.

By raising awareness and sharing information on the effects of climate change on mountain ecosystems and resources, significant progress can be made towards sustainable decision-making on issues such as development, biodiversity, food security and renewable energy. This can be achieved in the framework of a high level international scientific conference, involving top researchers, concerned policy makers and the public in a milestone event on the road to 2015.

**GOAL:**

Contribute to the understanding of current and future climate change processes, **so as to predict possible environmental, economic and social impacts, in particular on agriculture, trade and the health and wellbeing of millions.** By promoting management-oriented research, driven by decision makers in line with local sustainable development needs, demonstrating Italy's commitment in this sense through the SHARE project and promoting dialogue and exchange amongst international studies, networks and programs.

**STRATEGY:** By promoting management-oriented research, driven by decision makers in line with local sustainable development needs.

**ORGANIZERS:** Ev-K2-CNR Committee; the City of Milan; CNR

**FRAMEWORK:** Expo 2015; the International Year of Planet Earth 2007-2009; the Global Mountain Partnership

**TARGET AUDIENCE:** The conference will be mainly composed of representatives of the international scientific community, along with contributions from government and intergovernmental agencies. Appropriate global media coverage will be key to simultaneously help raise public awareness.

**INSTITUTIONAL PARTICIPANTS:** City of Milan; Milan Province; Lombardy Region; UNEP; FAO; WFP; the Global Mountain Partnership; World Bank; ICIMOD; IPCC; EU Commission on the Environment. Participation of emerging non-G8 countries, whose economies are heavily influenced by the effects of climate change on water resources and agriculture, is encouraged. Such countries include: China, India, Nepal, Pakistan, Brazil and several countries on the African continent.

**OUTCOMES:** A publication summarizing the conference's scientific and institutional contributions to conservation and sustainable management of fragile mountain ecosystems. The publication will be valuable for the scientific community, local, regional and national decision makers, and international non-governmental organizations. **This publication will be presented at the 2009 G8 meeting.**

**DATE:** 27-28 May 2009

**LOCATION:** Milan, Italy

**LANGUAGE:** English

**PARTICIPANTS:** the world's top experts in:

- |                          |                        |                           |
|--------------------------|------------------------|---------------------------|
| ✓ Hydrology              | ✓ Biodiversity         | ✓ Glaciology              |
| ✓ Climatology            | ✓ Ecosystem management | ✓ Modelling               |
| ✓ Atmospheric Sciences   | ✓ Agriculture          | ✓ Medicine and Physiology |
| ✓ Environmental Sciences | ✓ Economics            | ✓ Renewable energy        |

**LOCATION** - Milano - Circolo della Stampa **Palazzo Serbelloni**  
 Corso Venezia, 16  
 20121 Milano  
 Tel. 02/76022671 - 02/76022712  
 Fax. 02/76009034

**PATRONAGES:**

*High patronage of the President of the Italian Republic  
 Italian Ministry of Foreign Affairs  
 Italian Ministry of Environment  
 Italian Ministry of Education, Universities and Research  
 Municipality of Milan*

*With the technical cooperation of the Food and Agriculture Organization of the United Nations – FAO*



## POSSIBLE FORMAT:

### DAY I OPENING REMARKS

Letizia Moratti  
Christophe Bouvier  
Jaques Diouf  
Surendra Shrestha

*Mayor of Milan; Milan Expo 2015 Commissioner*  
*Director of the UNEP-Regional Office for Europe*  
*FAO General Director*  
*Director Strategic Resource Mobilization/Special Initiatives UNEP*  
*Italian Ministry of Environment*  
*Italian Ministry of Foreign Affairs*  
*Italian Ministry of Education, Universities and Research*  
*President of the Italian National Research Council (CNR)*  
*Ev-K2-CNR Committee*  
*Mountain Biospheres and Arid Zone Ecosystems, UNESCO*  
*World Meteorological Organization (WMO)*  
*World Climate Research Programme (WCRP)*  
*Euro-Mediterranean Center for Climate Change (CMCC)*

Luciano Maiani  
Agostino Da Polenza  
Thomas Schaff  
Leonard Barrie  
Vladimir Ryabinin  
Antonio Navarra

### SESSION 1

#### Chair .....

Objective: illustrate the state of the art of environmental and climate research in mountain areas, considering in particular: high altitude watersheds, glaciers and freshwater, weather-climate patterns and agriculture. Stocktaking of related local, regional and global policies on development, global warming, energy, food security and health.

#### Invited speakers

### ATMOSPHERE AND CLIMATE

<b>V. Ramanathan</b>	Chair, Project ABC Science Team (Scripps Institution of Oceanography, University of California, San Diego, USA)
<b>F. Giorgi</b>	ICTP
<b>Georg Kaser</b>	IACS
<b>G.R. Carmichael</b>	
<b>R. Maheswar</b>	UNEP
<b>Toshio Koike</b>	Lead Scientist for the Coordinated Energy and Water Cycle Observations Project (CEOP)
<b>Brent Holben</b>	NASA AERONET - Aerosol Robotic NETWORK

### WATER AND GLACIERS

<b>Richard Armstrong</b>	National Snow and Ice Data Center, University of Colorado
<b>Martin Beniston</b>	University of Geneva - Research Group on Climatic Change and Climate Impacts
<b>Michael Bishop</b>	Global Land Ice Monitoring from Space (GLIMS)
<b>Daniel Viviroli</b>	Hydrology Group, Institute of Geography, University of Berne
<b>Mr. Anders Berntell</b>	SIWI The Stockholm International Water Institute
<b>Stephan Isoard</b>	Environmental European Agency

### FOOD SECURITY

<b>Madhoolika Agrawal</b>	FAO ABC-Agriculture Impact Study Group Environmental Studies, Department of Botany, Banaras Hindu University
<b>Gete Zeleke</b>	Coordinator, RUL for Africa, Global Mountain Program (GMP)
<b>Amadou Gaye</b>	AMMA
<b>M. Centritto</b>	IBAF-CNR
<b>Peter Trutmann</b>	The Global Mountain Program (GMP) del Consultative Group on International Agricultural Research (CGIAR)

### ENERGY

	ENI
	EURAC
<b>Amit Kumar</b>	TERI
<b>T S Panwar</b>	TERI

### BIODIVERSITY

	WWF-International
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	<b>Peter Shadie</b>	IUCN	
	<b>Riccardo Valentini</b>	Tuscia University	
	<b>Christian Körner</b>	Department of Botany, University of Basilea/ Chair Global Mountain Biodiversity Assessment (GMBA) Scientific Steering Committee	
	<b>Luigi Boitani</b>	Università degli Studi La Sapienza	
	<b>Barney Dickson</b>	UNEP-WCMC Climate Change and Biodiversity	

### HEALTH

	<b>Mathros Ruchirawat</b>	ABC –HEALTH CRI	
	<b>Roberto Bertolini</b>	Special Program Director, Environment and Health WHO	
	<b>Alvaro A. Cruz</b>	Global Alliance against chronic Respiratory Diseases (GARD) Environmental Health	
	<b>Alexander Baklanov</b>	MEGAPOLI	

### ECONOMY AND ADAPTATION STRATEGY

	<b>Sergio Castellari</b>	IPCC National Focal Point (Euro-Mediterranean Center for Climate Change - CMCC)	
	<b>Carlo Carraro</b>	Climate Impacts and Policy Division, CMCC	
	<b>Shardul Agrawala</b>	OECD	
	<b>G. Greenwood</b>	MRI	
	<b>Federica Ranghieri</b>	World Bank	
	<b>Roberto Acosta</b>	UNFCCC Adaptation strategies coordinator	
		International Human Dimensions Programme on Global Environmental Change (IHDP)	

### DAY II

#### SESSION 2

Objective: Present the SHARE project - phase II and its scientific and technological contributions to increasing knowledge on climate change and the environment to support sustainable decision making of governments on all levels.

#### Opening Session

The SHARE Project an Italian contribution to climate change studies  
Italian Ministry of the Foreign Affairs Franco Frattini  
UNEP – ROE Gaetano Leone



**Round Table: Environmental networks**  
Chair: **Iyngararasan Mylvakanam (UNEP)**

	<b>PRESENTATIONS</b>	<b>THE SHARE NETWORK and COLLABORATIONS</b>	
	<b>Kenichi Ueno</b>	Associate Professor at Graduate School of Life and Environmental sciences, University of Tsukuba	
	<b>Sandro Fuzzi</b>	UNEP Project ABC Science Team member; Research Director at ISAC-CNR	
	<b>R. De Bernardi</b>	ISE –CNR	
	<b>Claudio Smiraglia</b>	Physical Geography-Geomorphology at the University of Milano Past President of the Italian Glaciological Committee	
	<b>Vladimir Ryabinin</b>	ABC	
	<b>Liisa Jalkanen</b>	GEWEX/CEOP	
	<b>INVITED COMMENTS</b>	GAW	
		<b>OTHER NETWORKS</b>	
	<b>Terry Parr</b>	ILTER	
	<b>Michael Mirtl</b>	ILTER	
	<b>Georg Grabherr</b>	GLORIA	
	<b>Harald Pauli</b>	GLORIA	
	<b>Christoph Kueffer</b>	Mountain Invasion Research Network (MIREN)	
	<b>Pavel Groisman</b>	NEESPI	
	<b>Bidya Banmali Pradhan</b>	ICIMOD	
	<b>Guoxiong Wu</b>	IAP, CAS	
	<b>R. Roohi</b>	NARC/ PARC	



With the technical cooperation of the Food and Agriculture Organization of the United Nations



Regione Lombardia



Stations of High Altitude for Research on the Environment



Milano

Comune di Milano  
Mobilità, Trasporti, Ambiente



Mountain Partnership

## **SHARE** SHARE project - phase II

<b>SHARE phase II</b>	<b>E. Vuillermoz</b>	EvK2CNR Committee	
<b>Introduction</b>			
<b>SHARE Research activities</b>	<b>P. Bonasoni</b>	<b>CNE-ISAC</b>	
<b>SHARE technology</b>	<b>P. Lai</b>	<b>CNRS</b>	
<b>SHARE Information System</b>	<b>P. Sandei</b>	<b>UNEP</b>	
<b>SHARE CAPACITY BUILDING</b>	<b>F. Salerno</b>	<b>CNR-ISE</b>	

### Other Events:

- Photo Exhibit: "Mountains: resources for the Earth's future - Twenty years of the Ev-K2-CNR Unit Research, from Lombardy to the Himalayas"
- Presentation of SHARE-Everest 2008 expedition film, in collaboration with the City of Milan Commission for Mobility, Transportation and the Environment