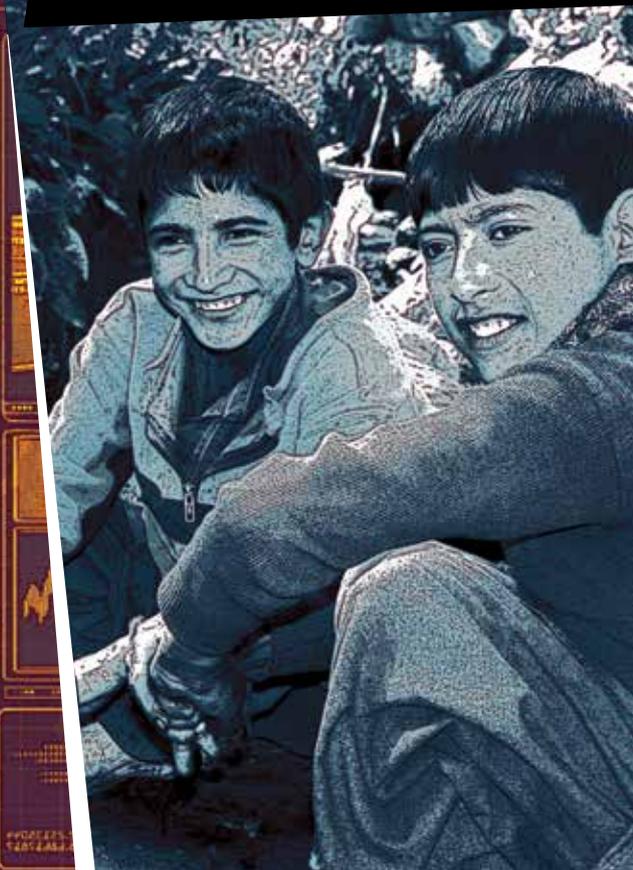
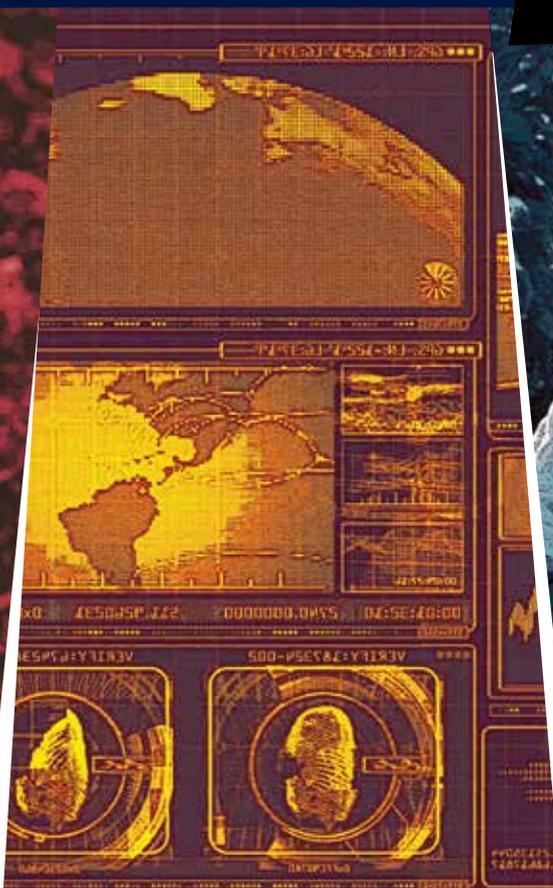


Annual Report

2013



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Our Vision

Contribute to the resolution of global problems concerning the environment, health and socio-economic development by creating, coordinating and promoting scientific research and cooperation and capacity building initiatives with a particular focus on vulnerable environments and populations in developing countries.

Objective

Improve understanding of complex ecosystems (as the high altitudes), their processes and interactions with the human component and the effects of global changes on a local level, so as to contribute to sustainable development and enhanced management of natural resources.



Message from AGOSTINO DA POLENZA Ev-K2-CNR president



Agostino Da Polenza
Ev-K2-CNR President

More than 25 years have gone by since Prof. Desio entrusted the fate of EVK2CNR to my hands. During that time, our achievements have included the procurement of good scientific results, the construction of research facilities, the training of high-level specialists, the support of CNR institutes and Italian and international universities, the setting up of information systems for scientific dissemination. We have also been active in the transfer of technology and skills in favour of universities and institutions in developing countries hosting some of the most important mountain regions on earth.

All this is brought together and documented by the history, scientific works and administrative acts of EVK2CNR.

The year 2013, and the first half of 2014, have been of crucial importance to us.

The idea that EVK2CNR could be a model transferable to other systems, ones which were not closely linked to the environment and mountains, has turned out to be of difficult application. The exponential multiplication of legal rules and administrative requirements in Italy and Europe, coupled with the ever increasing scourge of bureaucracy, have conspired to prevent the experiment's success.

We have had to abandon projects like Parfamar, which led us from the great peaks to the waters of the Mediterranean. The same is true of the IMICA project, whose aim was to create an industrial system for the manufacture of atmospheric monitoring instruments. So, we have returned to our mountains, leaving to our partner of

25-years, the CNR, the opportunities built together in PARFAMAR and I-AMICA, so that they can be brought to a conclusion. We wish them every success, even if we know the difficulties they face.

I write these few lines at the base camp of K2, under the falling snow. There is something paradigmatic in what happens on a climbing expedition of limited duration, say, about two months, and what occurs in a person's long private and professional life. The K2, in particular, highlights, above all, the similarities.

The objective of an expedition like ours to K2, is the summit itself and the extreme effort undergone to attain it. For this, we need ideas, motivation, a pinch of madness, and huge determination. You need people who share the same idea, the strategies and rules: brave men, motivated individually, but who act as a team to strengthen their actions; you need intelligence, patience, tolerance, good luck and the right equipment. All of a sudden, I don't know whether I'm talking about EVK2CNR, or K2, whose summit may await us, as we linger at Base Camp, waiting for an opening of good weather to enable our departure. In fact, if you want to achieve significant, concrete, internationally recognized results, precisely the same precious qualities are needed.

The project SEED is a great example, with its 58 on-going activities, which move on several different fronts, but with one overall goal: the sustainable management of the Central Karakoram National Park. Hence, it involves projects for the training of professionals in tourism, marketing, the production and improvement of crafts and agricultural products; but it also includes studies for territorial planning and the management of forests and pastures - 300,000 trees have been planted, 20,000 sheep vaccinated. The area has been remapped in detail and a GIS is now available. Work has been carried out not only on the census of glaciers and assessment of their surface areas, but also on their thickness and the dynamics of ablation zones, with glaciological missions up to an altitude of 6400 m. Studies in tandem with highly professional and prestigious local authorities, such as WAPDA and PMD, aim also to determine the availability of water in the region, not only at the present time but also in the long term, and we have undertaken the first eva-

luation of permafrost, on the ground, not using Google Earth.

Research on agricultural systems and forestry have produced good results, useful for the management and economic sustainability of this territory: for example, the famous apricots of Gilgit Baltistan, after the rationalization of processes of harvesting and, especially, conservation and food safety, will for the first time be entering a phase of industrial production and international distribution, with undoubted economic benefits.

All this was part of the vision that our founder, Prof. Desio, had imagined almost 30 years ago, with the creation of a large park around K2. Now the park exists, has a Management Plan, and all of the legal provisions to ensure its life.

It is an experience and a method that we are exporting to other parks in Pakistan, but also to other countries of Asia, Africa and South America.

So it's back to the mountains - after all, we are men of the mountains. Our team comprises many researchers, institutions and organizations, major projects like SHARE, international excellence in atmospheric monitoring in mountain and remote areas of the world, as well as NextData, a parallel project, which is working on an information system for the data collected from the mountains, and on improving the predictive capacity of climate and environment models. These are all important projects. There is also a new project to set up of a fund for research on land and industrial development.

But after twenty-five years, it is my conviction that a new generation should assume the leadership, as old and new challenges demand new knowledge, energy, techniques, and ability. I will not be leaving my mountains or my climbers. I'm still here at K2 Base Camp, sitting with them to eat, talk, discuss, and to tell them the odd story that may come in useful. I look on them with affection, trying to understand their talents and ambitions. I'm still leading the same life as they do, trying to be of use to them and myself. I look forward to joining them as they journey along the many paths among the mountains of the world. And, I certainly shan't be leaving my good friends, the researchers, with whom I have shared 25 years of my life, under the EVK2CNR logo.



Message from Dr. Qamar uz Zaman Chaudhry Special Envoy of UN-World Meteorological Organisation's Secretary General on DRR & Climate for Asia



Dr. Qamar uz Zaman Chaudhry
UNDP National Expert Climate Change Policy
Former Vice President World Meteorological Organisation Asia Region
Former Advisor (Climate Change), Government of Pakistan

research, was very successful in the field of natural resources, agriculture, water, primary education and capacity building.

The well known SHARE project, which aims at contributing to the study of climate change and its mitigation, has also performed very well.

The Nepal Climate Observatory Pyramid after up gradation has become the Global Atmospheric Watch (GAW) station.

I hope that Ev-K2-CNR, would continue to be the source of inspiration to all the stakeholders envisioning to work on similar issues in the region.

It gives me a great pleasure to acknowledge the technological and scientific research activities of Ev-K2-CNR in Hindu Kush - Karakorum -Himalaya (HKKH) region, with a particular focus on Nepal and Pakistan.

I recall the initiation of the collaboration between Pakistan Meteorological Department and Ev-K2-CNR way back in 2007, which helped the two organizations in setting-up the high altitude mountain atmospheric monitoring and research stations in Hindu Kush - Karakorum region in order to monitor, understand and model the effects of climate change on glaciers, with particular focus on precipitation processes, and to tackle adaptation strategies.

The information from these stations will help us in improved understanding and knowledge of the different mountain cryospheric components, especially impacts on glaciers, permafrost and snow.

Second initiative which I want to highlight is the SEED project, launched in 2009 in the Central Karakoram National Park, aims at reducing poverty and promoting sustainable development through the integration of ecosystem-management oriented

Ev-K2-CNR Institutional and International Recognitions



CRUI – DOI

February 25th, 2013 - participation of Ev-K2-CNR in the DOI project.



GEO (Group on Earth Observations)

January 30th, 2013 - appointment of Ev-K2-CNR researcher, Dr. Antonello Provenzale, as GEO Ecosystems Coordinator

SUSKAT (Sustainable Atmosphere for the Kathmandu Valley) Project

May 17th, 2013 - participation of Ev-K2-CNR Committee in the Suskat-ABC field Campaign through the Ev-K2-CNR Paknajol and NCO-P sites



The United Nations General Assembly resolution

August 3rd, 2009 - (n. 64/222) on Sustainable Mountain Development – Ev-K2-CNR Committee climate change activities' mention

August 5th, 2013 – (n. 68/307) on Sustainable mountain development - Ev-K2-CNR Committee climate change activities' mention



UNEP (United Nations Environment Programme)

February 19th, 2007 - accreditation of Ev-K2-CNR Committee to the Governing Council



UNEP –ABC (Atmospheric Brown Cloud) Program

March 26th, 2007 - appointment of Ev-K2-CNR Committee researcher, Dr. Sandro Fuzzi, as ABC Science team Member

October 21st, 2003 - designation of Ev-K2-CNR Committee as partner



UNEP – CCAC (Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants)

February 15th, 2013 - designation of Ev-K2-CNR Committee as non-State Partner in the Climate Clean Air Coalition to Reduce Short-Lived Climate Pollutants



UNFCCC (United Nations Framework Convention on Climate Change)

December 20th, 2009 - admission of Ev-K2-CNR Committee as Observer Organization to the Conference of the Parties



WMO - GAW (World Meteorological Organization – Global Atmosphere Watch)

December 17th, 2007 - recognition of the ABC-Pyramid station as contributing station in WMO Global Atmosphere Watch network

September 8th, 2010 - upgrade of the regional GAW station ABC-Pyramid to Global GAW station

October 31st, 2010 - upgrade of the regional GAW station Mt. Cimone to Global GAW station



WMO-SPICE (Solid Precipitation Intercomparison Experiment)

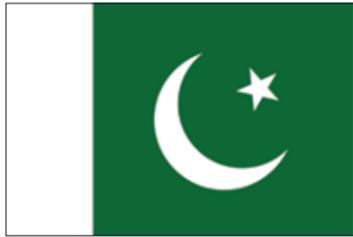
(in final report International Organizing Committee for the WMO Solid Precipitation Intercomparison Experiment- Davos, Switzerland June 17th -21st, 2013) – participation of Ev-K2-CNR Committee in the Solid Precipitation Intercomparison Experiment (SPICE) through the SHARE automatic weather stations (AWSs) installed on Forni Glacier (Italy) and at Pyramid International Laboratory Observatory (Nepal)

Ev-K2-CNR scientific council Establishment of Nepalese and Pakistani Scientific Boards

In 2013, in the framework of the recent scientific activities promoted by Ev-K2-CNR in Asia, we decided to place side by side to Ev-K2-CNR scientific council two scientific boards, one for Nepal and one for Pakistan, in order to strengthen the interactions at national and international level and to cooperate in the planning and carrying out of the future activities.

The Regional Scientific Boards Members work in synergy with the Ev-K2-CNR Scientific Council, and Ev-K2-CNR, benefiting of their expertise and competences and of their strong relationship with local people, may implement its scientific initiative and better reply to real needs of local communities.

For **PAKISTAN**, the Scientific Board is composed of 4 members:



Aziz Ali Najam (also Ev-K2-CNR Scientific Council member)
Provost & Associate Dean, Student Development & University Affairs, Shifa College of Medicine
Expertise: Educational Leadership - Faculty Development - Project Planning - Budget Monitoring - Student Counseling



Ashiq Ahmad Khan
University of Peshawar, Peshawar
Expertise: M.Sc. (Zoology), with specialization in Entomology - M.Sc. (Forestry) - M.Sc. (Natural Resource Management)

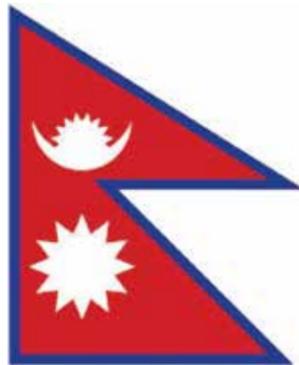


Muhammad Akram Kahlowan
Expertise: PhD in Civil Engineering (expert on the various aspects of water resources management)



Qamar-Uz-Zaman Chaudhry
Former Advisor (Climate Affairs) Government of Pakistan - Former Vice President of World Meteorological Organization
Expertise: researcher in the field of Meteorology, Atmospheric Sciences, Hydrology and Seismology

For **NEPAL**, the Scientific Board is composed of 2 members:



Bhupesh Adhikary
Executive Scientific Representative - Ev-K2-CNR
Expertise: PhD in Chemical Engineering (expert on the atmosphere modeling)



Dinesh Bhujju
Academician, Nepal Academy of Science and Technology
Expertise: researcher in the field of Plant Ecologist, Biodiversity

The Scientific Boards support the activities of Ev-K2-CNR Scientific Council providing guidance and advice, in particular, regarding the general scientific direction of local projects promoted by Ev-K2-CNR, the possible opportunities for integration or collaboration with existing National or International programs and the possible funding opportunities for Ev-K2-CNR activities, respectively in Pakistan and in Nepal.



An automatic weather station (South Col, 8,000 m a.s.l., Nepal) installed in the framework of the SHARE monitoring network

SHARE

Monitoring Network

Installation site	Country/Continent		Station	Characteristics	Altitude (m a.s.l.)
Mt. Cimone (Northern Apennines)	Italy	Europe	"Ottavio Vittori" Observatory (ISAC-CNR)	ATM	2165
Forni Glacier (Central Alps)	Italy	Europe	AWS1 Forni	AWS	2669
Dosdè Glacier (Central Alps)	Italy	Europe	AWS Dosdè-Levissima	AWS	2850
Gigante Glacier (Western Alps)	Italy	Europe	AWS Bianco- Osram	AWS	3430
Campo Imperatore (Gran Sasso Apennines)	Italy	Europe	Mt. Portella Observatory (CETEMPS)	ATM	2401
Suskat Observatory (Kathmandu, Nepal)	Nepal	Asia	Suskat	ATM	1250
Pyramid Laboratory Observatory (Lobuche, Khumbu Valley)	Nepal	Asia	NCO-P (ABC-Pyramid)	ATM	5079
			AWS1	AWS	5050
Pheriche (Khumbu Valley, Himalayas)	Nepal	Asia	AWS2	AWS	4258
Namche Bazaar (Khumbu Valley, Himalayas)	Nepal	Asia	AWS NP	AWS	3560
Lukla (Khumbu Valley, Himalayas)	Nepal	Asia	AWS3	AWS	2660
Kala Patthar (Khumbu Valley, Himalayas)	Nepal	Asia	AWS-KP	AWS	5600
Changri Nup Glacier (Khumbu Valley, Himalayas)	Nepal	Asia	AWS-CNG	AWS	5700
Urdukas (Baltoro Glacier, Karakorum)	Pakistan	Asia	AWS PK1	AWS	3926
Askole (Baltoro Glacier, Karakorum)	Pakistan	Asia	AWS PK2	AWS	3015
Concordia (Baltoro Glacier, Karakorum)	Pakistan	Asia	AWS CO	AWS	4700
Deosai plateau (Pakistan)	Pakistan	Asia	RCS Deosai	ATM	4135
Multan Airport (Pakistan)	Pakistan	Asia	Multan	ATM	121
Mt. Stanley (Elena Glacier, Rwenzori)	Uganda	Africa	AWS RW	AWS	4750
Chacaltaya (Cordillera Real, Ande)	Bolivia	South America	Chacaltaya Laboratory (La Paz University)	ATM	5240

Tab.1 - Measurement stations (AWS: automatic weather stations, ATM: observatories for atmospheric composition measurements) contributing to the SHARE Project.

SHARE (Stations at High Altitude for Research on the Environment) project, promoted by Ev-K2-CNR and funded by the Ministry of Education, University and Research (MIUR) through the Italian National Research Council (CNR) aims to contribute to the study of climate change and its impact in mountain regions, providing unique information to international scientific community on environmental and climatic research and to decision-makers on sustainable development and adaptation strategies.



Project Coordinator:
Paolo Bonasoni (ISAC-CNR) till May 2013



Project Coordinator:
Elisa Vuillermoz (Ev-K2-CNR) from June 2013
Website: www.share.ev-k2cnr.org

PROJECT AREA
Worldwide mountain regions

PROJECT OBJECTIVES

- To improve scientific knowledge on climate variability and climate change impact in mountain regions;
- To improve performances of technological system used for carrying out monitoring activities in extreme regions;
- To develop an international standard platform for sharing scientific data and metadata on mountain regions;
- To promote capacity building activities for supporting the sustainable development of mountain regions and improve awareness of environmental problems.

PROJECT STRUCTURE

- WP1** Scientific Research and Climate
 - WP 1.1 Atmosphere
 - Pilot Projects: SHARE ABC
 - SHARE Modelling Center
 - WP 1.2 Earth Sciences
 - WP 1.2.1 Glaciology
 - Pilot Projects: SHARE STELVIO
 - SHARE PAPIKA
 - WP 1.2.2 Geology/Natural Risk
 - WP 1.3 Water Resources
 - WP 1.4 Biodiversity and Natural Resources
 - WP 1.4.1 Mammal Biodiversity
 - WP 1.4.2 Plant Biodiversity
 - Pilot Project: SHARE Himalayan Seed Bank
 - WP 1.5 Environmental Medicine
 - Pilot Project: SHARE Gard Khumbu
- WP 2** Scientific and Technological Research
- WP 3** Information System
- Pilot Project: SHARE GeoNetwork
- WP 4** Capacity Building

SHARE project interacts with the Italian Project of strategic interest NextData, sharing the ground based observations carried out by the monitoring network operative in Himalaya and Karakorum.



Summit of Ama Dablam mountain (6.856 m a.s.l., Sagarmatha National Park, Nepal)



Frozen river in Khumbu Valley - Nepal.

WP1 Scientific research and climate

2013 RESULTS

(Ref. Dr. Paolo Cristofanelli, ISAC-CNR)

1.1 Atmosphere

(Ref. Dr. Paolo Cristofanelli, ISAC-CNR)

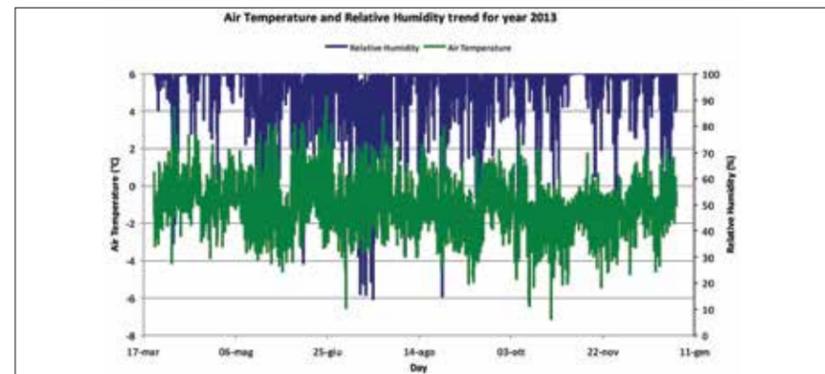
The collection of meteorological and atmospheric data from all stations and atmospheric observatories into SHARE network continued, and the maintenance activities of equipments, including calibration campaign at NCO-P, were guaranteed. Test in a climatic chamber installed at the Pyramid Laboratory Observatory, for in-situ calibration of air temperature and atmospheric pressure sensors, were performed. In 2013, the SHARE monitoring network was implemented through:

- the reestablishment of meteorological measurements in Uganda through a new AWS in the western part of the Stanley Plateau (Rwenzori Mountain National Park), at 4750 m asl;

- the installation, in the framework of Suskat - Sustainable Atmosphere for the Kathmandu Valley - programme, of a new permanent monitoring station at the Ev-K2-CNR Representative Office in Paknajol, Kathmandu;
- the installation, in the framework of UNEP-ABC programme, of a transportable system for the measurements of atmospheric compounds and climate-environmental parameters in Pakistani Deosai National Park at 4135 m a.s.l. in collaboration with WAPDA and PMD. Moreover, modelling elaborations at Numerical Modelling and Earth Observation Laboratory, in Kathmandu, continued in 2013, with the involvement of NAST's researchers.



a) Automatic Weather Station installed in Rwenzori Mountain National Park (4750 m); b) Trend of Air Temperature and Relative Humidity data recorded by AWS Rwenzori in 2013.



WP 1.2 Earth Sciences

WP 1.2.1 Glaciology

(Ref. Dr. Guglielmina Diolaiuti - Prof. Claudio Smiraglia, University of Milan)

Data from the SHARE Alpine AWS network, including also the "satellite stations" (measuring rock temperatures and melt-water discharge) and the permafrost borehole at the Stelvio Pass, were regularly collected and analysed to calculate the glacier point energy budget, melt amount, and the permafrost behaviour respect to climate change.

In 2013 the three-year SHARE STELVIO project was concluded. This project, developed as part of the SHARE program, was funded by the Lombardy Region and managed by Ev-K2-CNR and FLA (Fondazione Lombardia per l'Ambiente). During the project many scientists from CNR and Lombardy universities worked together to describe climate change impacts on cryosphere, water resources and atmosphere of the Stelvio National Park (ca. 600 km²), the largest natural protected area of Lombardy.

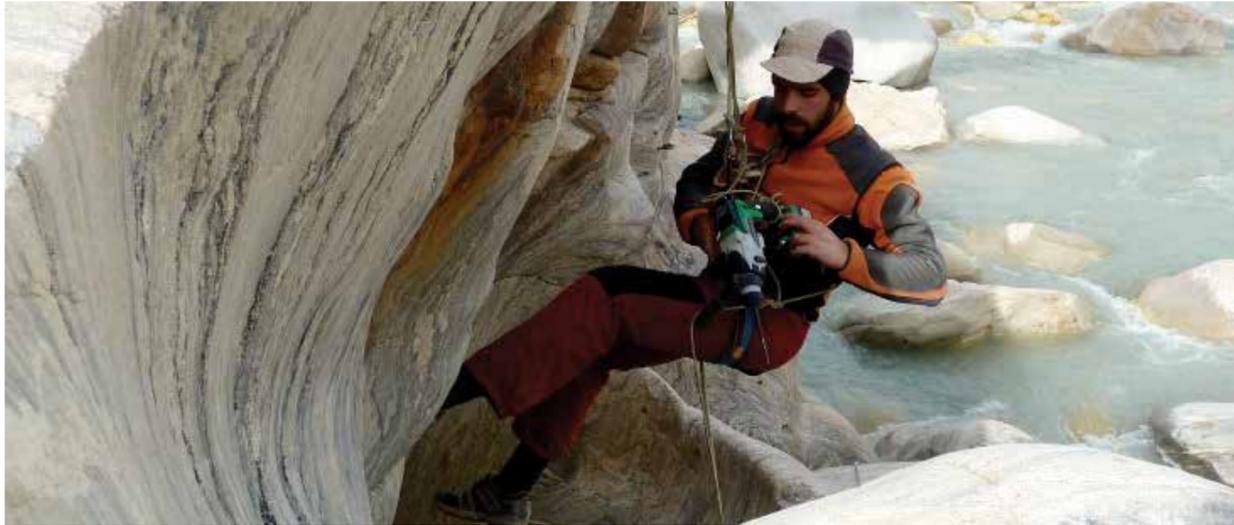
The main research activities concerned:

- study of glacier shrinkage, driven by climate change over half a century (1954-2007) in the Ortles-Cevedale group (Stelvio national park, Lombardy, Italian Alps);
- collection of new data about subo-

- real transition on the southern side of the European Alps;
- investigation of mountain permafrost features and conditions up to 235 m of depth by a deep borehole drilled into the rock at the Stelvio Pass (3000 m a.s.l.);
- verification of the shifting upwards of High Alpine ponds due to the average temperature increases in the 1954-2007 time windows;
- detection of Black Carbon and Saharan dust presence on the Lombardy Alps and description OF their impacts on ice and snow albedo and melt rates;
- forecasting of the Lombardy glaciers' evolution through some modelling approaches;
- evaluation tourists' perception of environmental changes as contribution to manage natural resources in glacialized areas.



Regularly maintenance activities carried out near the AWS Forni, in Stelvio National Park.



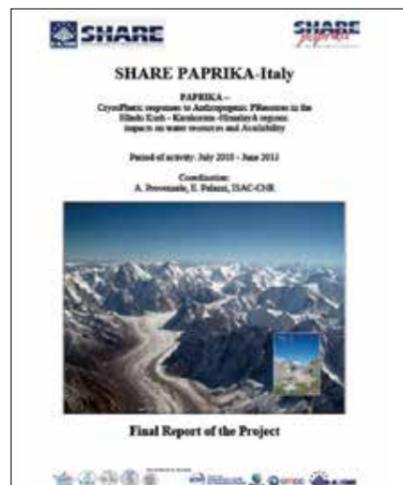
Franco Rolfo and Pietro Mosca during hydrological research activity, in Pakistan.



Rocks sampling in the framework of geological activity, in Nepal.



Cover of the book "Un Mondo D'acqua" first volume of a trilogy, summarizing all information about lakes of Stelvio National Park.



Cover of SHARE PAPRIKA - Italy final report

June 2013 saw the end of the three-year research project SHARE-PAPRIKA, devoted to determining the state of glaciers and water resources in the Hindu-Kush Karakoram Himalaya region (HKKH) and to estimating their conditions in the coming decades in different climate change scenarios. In particular in the framework of the PARPIKA - ITALY project (primarily focused on the Hind-Kush Karakorum region in Pakistan and on the Changri Nup Glacier region in Nepal) many scientists from National and International Research Centers and Universities worked together achieving the following results:

- Realization of a glacier inventory for the Central Karakoram National Park (CKNP);
- Quantitative assessment of the current state of the atmospheric composition and circulation; aerosol load, deposition and chemical properties;

balance and flow estimates; hydrological observations, including water quantity and quality, in the two study areas, with an enhanced observational effort in the Baltoro glacier region;

- Development of an ensemble of integrated modeling tools, based and validated on field and remotely sensed data, to obtain quantitative and reliable estimates of water availability and of climate change impacts on agriculture, environment and ecosystems in the coming decades (2010-2050);
- Promotion of strategies for capacity building, dissemination and information transfer to policy makers, in collaboration with the SEED (Social, Economic, Environmental Development of Central Karakorum National Park (CKNP) and Buffer Zone) project.

SHARE PAPRIKA - Italy outcomes are reported in the final report of the project (ISBN: 9788890539848)

WP 1.2.2 Geology/Natural Risk

(Ref. Prof. Franco Rolfo, University of Turin; Prof. Giorgio Poretti, University of Trieste)

During the year continued both the studies on metamorphic CO₂ degassing from the Himalayan orogen and its influence on long-term global climate changes, and the data analysis of the GNSS Permanent Station, installed last year at the Pyramid International Laboratory, as part of the Himalayan GNSS network.

WP 1.3 Water Resources

(Ref. Dr. Riccardo de Bernardi, Ev-K2-CNR; Dr. Andrea Lami, ISE-CNR; Dr. Franco Salerno, IRSA-CNR).

The activities to improve knowledge of climate change impacts on water quality and quantity in Sagarmatha National Park continued. In particular, the collection of data to guarantee the submission of data to ILTER program (on High Altitude Lakes and) and to GAW - WMO database (on chemical composition of precipitation) was guaranteed.



Snow sampling activity carried out by American Researchers in Khumbu Valley.



Germination experiment set up in 2013, at Pyramid (5050 m asl).

WP 1.4 Biodiversity and Natural Resources

(Ref. Prof. Sandro Lovari, University of Siena; Prof. Graziano Rossi, University of Pavia)

Research study on mammals and plants biodiversity continued. In particular, in Dachigam National Park was carried out to deep knowledge on deers' abundance. While, in the framework of plant biodiversity, an experiment to understand whether the alpine species currently growing in subalpine areas are able to germinate and establish at higher altitude, was

set up in Khumbu Valley. In 2013 the Himalayan Seed Bank project continued and was carried out in strong synergy with the project "Conservation of plant biodiversity of wildlife species in Himalaya (Nepal)" co-funded by the Municipality of Milan (see section "Conservation of wild plant biodiversity in the Himalaya (Nepal)").

WP 1.5 Environmental Medicine

(Ref. Prof. Annalisa Cogo, University of Ferrara)

The analysis of the effects of indoor pollution on human health at Chaurikarka Village continued in 2013. For this purpose, further to spirometry tests, blood samples from local subjects were collected too. In addition, study of local houses continued to improve the knowledge on typical ventilation system.

During 2013, the Word COPD - Chronic obstructive pulmonary disease Day was organized at the Tribhuvan University Teaching Hospital in Kathmandu, in collaboration with Chiesi Foundation and in that occasion GOLD Guidelines for the diagnosis and treatment of COPD were illustrated by Prof. Annalisa Cogo.



Performing of blood sampling on local people in Chaurikarka Village, Nepal.



Italian Researcher, Maria Teresa Melis, presents of SHARE Geonetwork at International Conference High Summit, Lecco, October 2013.

WP2 Scientific and Technological Research

(Ref. Mr. Gian Pietro Verza, Ev-K2-CNR)

In the framework of technological research, a mobile system able to measure indoor pollution emissions in the local houses, and, in particular, Black

Carbon emissions from the cooking stoves was realized by Italian researchers and used at Chaurikarka village, in Nepal.

WP3 Information System

(Ref. Dr. Maria Teresa Melis, University of Cagliari)

In 2013 SHARE Geonetwork was published and were presented to international scientific community during the International Conference "High Summit - Lecco 2013". SHARE data were uploaded into the database that can be downloaded by users both as table or graph formats (official web page: <http://geonetwork.evk2cnr.org/>).

In this framework Ev-K2-CNR has joined the project DataCite and has become autonomous "Data Center" under the CRUI member for the assignment of an unlimited number of DOI through the DataCite platform. In this way it is possible to assign the DOI to the data acquired by the high-altitude stations and distribute it with the service-SHARE GeoNetwork.



Nepalese Students visit the Pyramid in the framework of World Environmental Day Celebration.



Traditional cooking stoves in a local house in Chaurikarka Village, Nepal.

WP4 Capacity Building

(Ref. Dr. Stefania Proietti, University of Perugia)

Training activities were carried out in Nepal, Pakistan and Uganda in order to guarantee the transfer of knowledge to local staff and allow them to become more and more independent in the management of scientific monitoring systems. Moreover, during the year Pyramid staff was properly trained for carrying out diagnosis test and transmit data to USL Valle D'Aosta, promoting telemedicine activities. In fact, in this way a communication network was established between Pyramid Laboratory-Observatory and

the Center of Mountain Medicine – Aosta Hospital, permitting to Italian Doctors to make remote consultations, on medical and physiological parameters. The World Environmental Day, in collaboration with Sagarmatha Pollution Control Committee, was celebrated in Nepal. In this occasion the book "What is Global Warming?" was presented in a few school of Khumbu Valley. The waste management systems, installed in Namche in 2012, continued to work in 2013, burning approximately 18,390 kgs of garbage.



NAST's staff at Pyramid



Italian research shows to Pyramidstaff technicians the main techniques to carry out diagnosis test.

For more information the whole Share Project Report 2013 is available at <http://www.evkc2nr.org/cms/it/share/progetto/intro/>

In the context of SERA - Smart Ecosustainable Residential Area - project a field mission was carried out in the last autumn, in Chaurikarka village - Nepal, in order to make a preliminary survey and promote efficiency solutions and renewable energies, concerning the building sector.

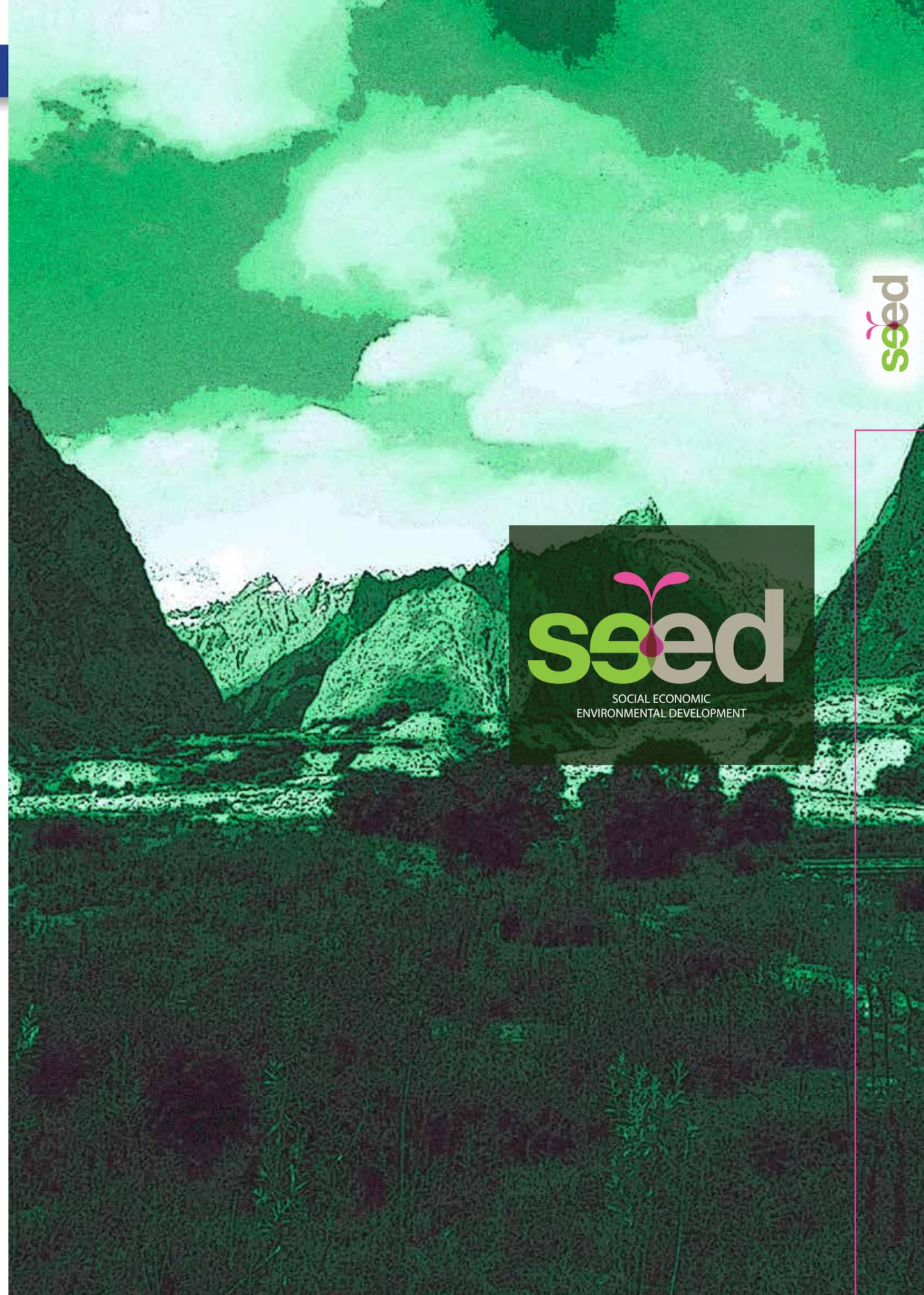
Between the end of September and mid-October, COBAT, the National Collection and Recycling Consortium and Ev-K2-CNR, participated in the "COBAT Ev-K2-CNR - Top Recycling Mission" to replace the photovoltaic modules and

batteries that power the International Laboratory-Observatory with the new ones technologically more advanced (Vipiemme Solar photovoltaic modules and Fiamm batteries).

A portion of the still functional photovoltaic modules and batteries replaced were donated to two Dinboche cooperatives sitting at an altitude of 4,200 meters, in the Khumbu Valley. The "Community Solar Station" will provide electricity to the residents of the town for at least 10 years.



Pyramidstaff during the installation of the new solar panels at Pyramid.



seed

seed
SOCIAL ECONOMIC
ENVIRONMENTAL DEVELOPMENT



Research activities at water quality laboratory (KIU, Gilgit) performed by Italian Technician, Mario Contesini and KIU Water Lab Staff



Achieving poverty alleviation, community development, livelihood improvement and conservation through an integration of intrinsic, scientific, ecosystem-management oriented research, indigenous practices of natural resource management and eco tourism principles to support the development and implementation of the CKNP and its surrounding areas.

PROJECT AREA
Central Karakorum National Park (Pakistan)

PROJECT OBJECTIVES

- To build a strong, intrinsically scientific CKNP management through the finalization and implementation of a management plan;
- To improve livelihoods and well-being of local communities within and around the park;
- To support eco-sustainable tourism sector and economic development improving the quality of visitor services, promoting ecologically sustainable visitor facilities and developing systems to allow a better management of visitor flow.



Project Director:
Raffaele del Cima (Ev-K2-CNR)
Web site: www.projectseed.net

2013 RESULTS

AA1c

Component: important conservation-relevant non farm income activities supported

Capacity building for local gemstone cutting and polishing (KIU)

As part of the activity a collaboration with Pakistan Gems, Jewellery Development Company (PGJDC) and Karakoram Area Development Organization (KADO), and Rupani Foundation have been established with the Karakoram International University for the training of 50 people. During last year 10 people have been trained, reaching the number of 40. The Display center at KIU campus Gilgit has been established and is ready for operation. A job fair for successful trainees was also organized during the Silk Route Festival celebration.

AA2a

Component: community organization and local people's access to important livelihood-assets improved

Improvement/installation of water supply schemes for communities (AKRSP)

In the current reviewed year improvement work completed on a water supply scheme benefiting 42 households and four irrigation channels benefiting 150 households.

AA2b

Implementation of measures to improve water quality (Ev-K2-CNR)

In collaboration with ISE-CNR, a water quality lab has been setup at the KIU. During the year tasks related to Laboratory inventory/tagging/labeling of respective items and Lab equipment maintenance and calibration were completed. One technician and a field assistant have been hired for the collection and processing of water samples. Water samples from the different valleys of CKNP have been collected (Bagrot, Haramosh, Astak, Braldo, Basha, Minapin, Pisan, Hoper, Sikan-darabad, and Rondo valleys) and tests performed in the Lab. CKNP staff was trained on water samples picking techniques through a mutual collaboration of Ev-K2-CNR, WWF and AKPSP.



A plot of energy plantation in Basha

AA2c Provision of capacity building for local community administrations and CKNP management in water quality sanitation control (Ev-K2-CNR)

The activity focuses on provision of training and capacity building of the CKNP staff and community representatives on the water quality analysis. Training for the game watchers, staff of WWF and community Reps held in Skardu and Gilgit. Eighteen participants were trained in Skardu and fourteen participants in Gilgit were trained on the water samples picking techniques.

AA2e Improvement of access ways for the villages of the CKNP (buffer zone) region (AKRSP)

Two link roads (Sarfakhore and Bandegon) have been completed. Completion of Sarfakhore link road has benefited 72 households and Toqmalakore link road has benefited 175 households. Completion of these access ways have improved access of the villagers to the market and provided them easier transportation of agricultural products to the market.

Component: local-level natural resource management improved

AA3c Training in natural resource management best management practices at community level (WWF)

In the current year WWF trained 54 people from CKNP area (Community members, CKNP and WWF staff) in natural resources management through two trainings. The trainings covered topics on pasture improvement techniques, improved animal husbandry, monthly wildlife monitoring, proven techniques of social forestry, sustainable horticulture and livestock insurance schemes. The trainees will work as resource persons or extension workers among the local communities around CKNP to implement pasture and livestock management related initiatives of WWF – Pakistan under the SEED Project for CKNP. The resource persons from the Wildlife, Agriculture and Livestock Departments of Gilgit-Baltistan provided an opportunity for participants to interact with officials of line departments and several mutual collaboration opportunities were highlighted, e.g. provision of fodder seed by Agriculture department and medicine by Livestock department, to enhance implementation of trainings by participants. VCCs have been asked to benefit from the trainees' knowledge and skills by engaging them in various activities concerning NRM.

AA3d Engage local media in mass awareness and sensitization for conservation (WWF)

In year 2013, Six radio programs on "importance of forests in maintaining healthy ecosystem, Biological diversity threats, protection and environmental issues in GB and CKNP area including activities of SEED in GB" were organized. The radio programs were broadcasted in local language in order to educate people living in the remote areas. Two fact sheets were developed on mammals of CKNP and on trees of CKNP and published. Coupled with that the World Environment Day was celebrated jointly with CKNP partners and Local CSOs. Students, community activists, politicians, journalists and environmental specialist participated in the event and expressed their views on the importance of environment and environmental challenges. The CKNP documentary developed by WWF – Pakistan is also aired from local cable networks in Baltistan and Gilgit. The documentary is appreciated by different walks of life to boost their knowledge on natural resources of the area and objectives of CKNP. A table calendar on protected areas of HKH mountain ranges of Pakistan has also been developed to highlight CKNP among other protected areas of the region.



Raffaele del Cima (SEED project director) of CKNP maps to Chief Minister Gilgit-Baltistan.



Fruit nursery

AA3e Mobilizing communities for participation in conservation and sustainable use of Park resources (WWF)

Under this activity in year 2013 Participatory Assessment of 10 VCCs were carried out, 3 DCC meeting held in Ghanche, Gilgit and Hunza-Nagar and DCC Hunza-Nagar was notified. A total of seven Village Conservation Plans were approved. Agreements with four VCCs have been signed and endowment funds established to help the VCCs' miscellaneous expenses on conservation related activities from the interest amount of the fund. Seasonal wildlife surveys conducted in four valleys, as result of the surveys an increasing trend has been observed

in the Himalayan ibex population in all valleys compared to previous years, which is attributed to CKNP and community-led watch and ward activities by the local community. Through a two-days training on governance, management and leadership skills of community-based organizations (VCCs/LSOs) 16 participants were trained. That help the Local institution management in improving governance, policies, communication systems, thinking of the organizational sustainability and resource mobilization and strategic planning.

AA3f Raising community awareness about their role in CKNP management (CKNP)

Under this activity, 35 consultative meetings /gatherings conducted with Community Based Organizations of CKNP, government line departments and field interventions and related issues were discussed. World Environment Day and International mountain days celebrated. Awareness in the community through a cleanup campaign conducted at campsites. Four Environment Clubs established at School level to raise

awareness in the youth who will prove instrumental in raising awareness at house level. With aim to raise awareness about CKNP and preservation of natural resources, awareness material concerning CKNP developed and distributed to 8 local schools and 5 CBOs. Six dustbins with logos of SEED and CKNP have also been developed and distributed among six local schools where CKNP environment clubs established.

Component: local agricultural production improved in accordance with CKNP vision objectives and regulations

AA4a Access Potential for Increased Production and Marketing of Local Agricultural Products (KIU)

During 2013 KIU Agricultural Department held two workshops with local farmers in Bagrot and Haramosh on pest management and food processing. Fifty farmers have been trained (25 in each valley). Farmers follow-up meetings were held in both valleys and as a result farmers have started processing units on a small scale. Moreover, data for manual development on marketing of local agri-

cultural products have been gathered and the manual development is under-process. A research on Value Addition and Phytochemical Analysis of Fruits & Vegetables including Mountain Herbal Berries (Ribes Alpestre, Ribes Orientale and Prunus Avium) in CKNP region of Gilgit-Baltistan was also carried which focused on breakthrough for Income Generation and Poverty Alleviation.

AA4b Devise and Install systems and provide training for environmentally sound, safe and hygienic production and processing of agricultural products (Ev-K2-CNR)

Food processing factory has already been established and running in Skardu. BCDF staff was trained to operate provided machinery and trained 5 women workers in whole dehydra-

tion process. After equipment installation at factory production process has been started and procurement of 48.5 kg Cherry, 4376 kg apricot, 587 kg Mulberry, 889 kg kernal, 925kg completed.

AA4c Enable market access for local agricultural products (Ev-K2-CNR)

In order to market the products of the food processing factory (activity AA4b) in Skardu, marketing strategy for the domestic market at local and national level has been developed and shared with the BCDF. However, the products also needs to be marketed in

the international markets; for that an international marketing strategy is in process. In 2013, the ToRs have been developed and mutually agreed with all stakeholders for hiring a consultant. A firm has been selected for developing the international strategy.



AA4d Establishment of fruit nurseries and training for improved productivity and marketing for local farmers (AKRSP)

In year 2013, one Model Fruit Nursery established, which consists of 4 kanals and 737 root stock of apricot, 100 improved Cherry plants, 150 root stock of cherry, 220 improved plants and 220 root stock of Mulberry.

In addition, to this improved varieties of apples (50 sus polo, 100 golden and 110 five star) have also been planted in the nursery. Follow up and monitoring of fruit nurseries were conducted. The owners of fruit nurseries have well

up kept the nurseries and sold out 158 fruit plants to the farmers in the village.

Buckwheat Processing Unit has been established /upgraded to support the Five Star Flour Mill .

The up- graded buckwheat processing unit produces quality buckwheat products and by-products, the demand of buckwheat products is increasing. Product promotional materials were developed and disseminated.

AA4f Improve livestock and pasture management (WWF)

In 2013, Watch and Ward activities remained continued through the (VVGs) in the seven targeted valleys to stop illegal hunting and 252 man months of watch and ward activities completed. Fodder Sites finalized and agreements signed with the targeted

VCCs, follow-up visits to 10 valleys to asses fodder cultivation also carried out. Follow-up visits to Basha valley to asses energy plantation conducted and finalized sites in Basha valley for energy plantation.



Camp Site on Deosai Plaetau.

Component: local awareness, quality and extent of health services improved

AA5b Establishment of a health-service network for Braldo-Shigar (Ev-K2-CNR)

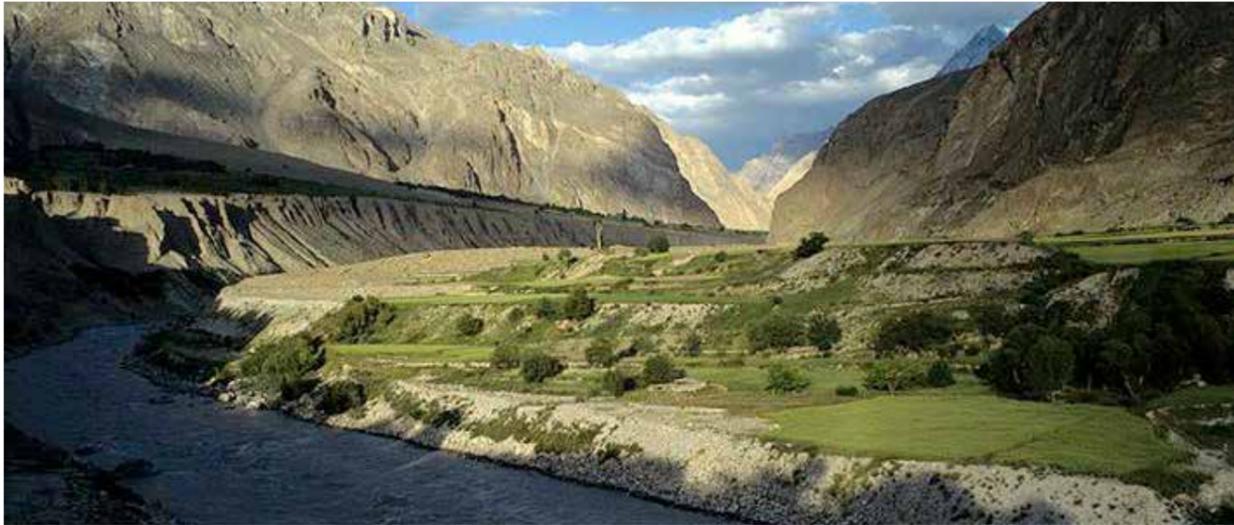
Five dispensaries supported with medical equipment under this activity. The refurbishment is in progress, including water supply and electrification in the existing buildings. Medicine and vaccination provided in the targeted valley, awareness sessions held in 3 schools in Braldo and Bhasha valleys, as result, improved health and hygiene

practices among the students has improved reported by teachers. Doctor organized medical camps in Bianco, Sidar, Konar, Chaqpo, Siasko. This year a disease Measle outburst in Bianco was experienced, the doctor immediately provided basic vaccination against the epidemic and controlled the disease.

AA5c Raise awareness for hygiene and health issues at community-level (AKRSP)

In 2013, 8 health & hygiene workshops have been conducted in CKNP valleys. These health and hygiene workshops have proved vital to add to the knowledge of resident of CKNP villages, especially women and children regarding common diseases, like diarrhea diseases in children, and sto-

mach and kidney problems in adults. Moreover, through these health and hygiene workshops personal, domestic and environmental hygiene practices among community people have improved.



Going north along the river

AB1c

Component: quality of lower education system improved

Improve facilities/infrastructure of local school buildings (AKRSP)

Field staff carried out monitoring visits of the schools repairing activities in Union council Tisar; all visited schools have been repaired properly. These schools were found vulnerable in terms of structural safety which could prove life threaten to students and immediate repair was imperative. Through SEED fund, those schools have been repaired and provided structural safety.

Component: intrinsic development of northern areas and CKNP initiated through the consolidation of kiu as a vibrant centre for applied sciences and hub for knowledge transfer

AB2a

Establishment of a new faculty for integrated mountain area development studies and applied research (Ev-K2-CNR & KIU)

In the framework of the activity several accomplishment were achieved during 2013. IMARC - Integrated Mountain Research Center - is established as office for the 15 PhD students currently enrolled in the SEED programme. The students of the first and third and forth batch have successfully concluded their course work and they are working on their thesis through direct filed data collection and analysis within the premises of KIU. One student of the first batch has spent two months for training in Italy, at the University of Padova.

Home page : <http://www.cknp.org/cms/>

AB2f

Installation of a water supply scheme for KIU Campus

The construction work of a water supply scheme for KIU campus has been completed with the installation of two water reservoirs and the lay-down pipelines towards the main Gilgit water supply.

AB2g

Installation of a renewable energy supply scheme for KIU campus (Ev-K2-CNR)

The solar system at KIU has been successfully installed in previous year which supplies almost 35 KVA to the server room and exchange which, running round the clock with 72 hours backup of solar energy. In 2013, co-generator has been procured, foundation for the installation of the co-generator constructed at installation completed.

AB2h

Development of an interactive Web Portal for CKNP and Northern Areas (Ev-K2-CNR)

Within the framework of Karakorum Trust II project, ICIMOD already developed a brief web site for CKNP having the domain of www.cknp.org.pk. This web-site also contained data under the activity Decision Support Tools (DST) for CKNP. However, the information contained in the web-site were not in line with the CKNP Management Plan, therefore it was decided both by Ev-K2-CNR and CKNP to keep the CKNP Web-Portal developed by Ev-K2-CNR (which is based on a dynamic platform, Wordpress version) and to transfer the format and the useful information from the web-site previously developed by ICIMOD (which instead was developed on a static platform). This was considered to be the best option also taking into consideration that only one unique web-site for CKNP can exist. The existing ICIMOD web-site structure has been completely revised in order to give back a dynamic platform able to attract visitors, not only by describing the Park characteristics, but also by being a promotional tool for the Park.



Khoburtse Glacier

Component: integrated research program to support CKNP development and management implemented

AB3b Conducting management-oriented environmental research and monitoring (Ev-K2-CNR & KIU)

All the researches groups worked according to their ToRs, and most of them produced preliminary results as well as management indications that have been shared with CKNP Directorate during the numerous field missions organized as well as included in the management plan.

The seven Italian Universities have concluded their researches in December 2013.

Their results and management indications have been included in the CKNP Management Plan, provisionally approved by the Government of Gilgit-Baltistan in March.

AB3h Installation and operation of AWSs (Ev-K2-CNR)

AWSs network installed along Baltoro Glacier have been constantly checked by local staff.

During an international mission of two Ev-K2-CNR Technicians, a field campaign for conducting running and extraordinary maintenance on the AWSs

as well as for downloading data has been arranged. In this occasion an Air Quality Monitoring system has been tested in Skardu and subsequently installed at Deosai.

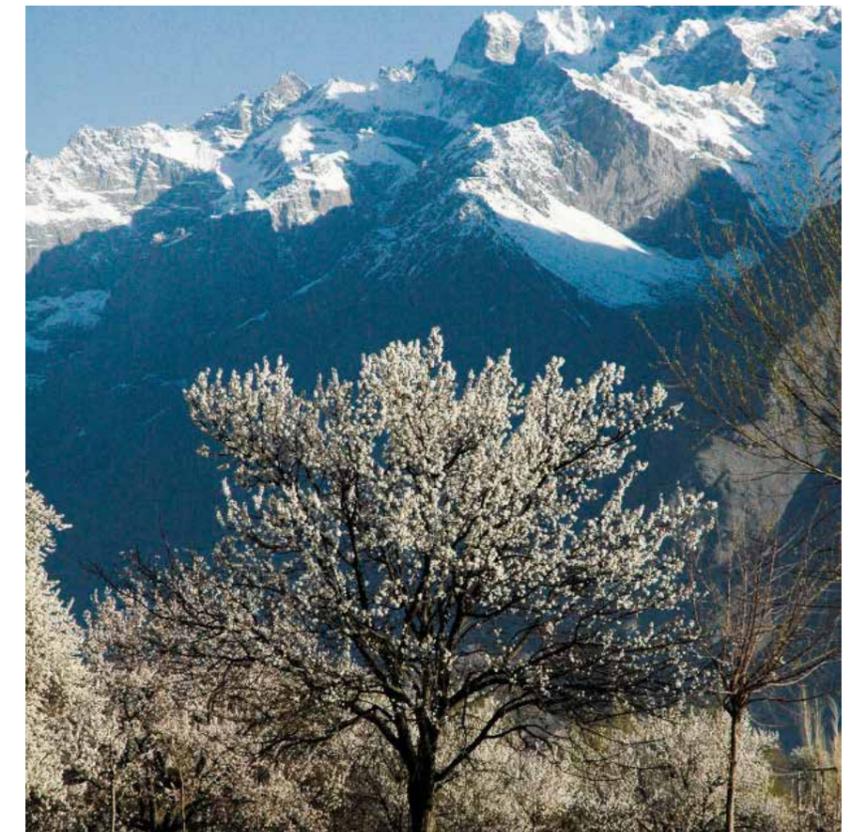
3 local staff have also been trained during this mission.



Concordia Rescue Team with Mr. Syed Mehdi Shah, Chief Minister Gilgit-Baltistan, Mr. Agostino Da Polenza, Ev-K2-CNR President and Mr. Maurizio Gallo, Project Manager Ev-K2-CNR SEED Activities

AB3i Afforestation and social forestry interventions carried out in vulnerable watershed areas (WWF & CKNP)

Under this activity plantation of 87000 plants has been made in 200 acres of land in 41 communities and regular monitoring and liaison kept continued. Follow-up visits of 12 valleys to assess plantation progress and post-care and plantation success rate found 80%, showing a good progress rate.



Pakistani landscape



Scientific Operational Meeting participants, April 29th-30th, 2013, Islamabad, Pakistan.

Component: capacity of CKNP management improved

AC1a Recruitment of new staff and salaries for existing CKNP staff secured (CKNP)

Salaries of the Central Karakoram National Park staff have been paid regularly during the reporting period, Watch and ward practices performed in different areas of CKNP to control illegal hunting. Monthly and seasonal wildlife assessments have been done and data shared with Ev-K2-CNR wildlife research group. Consultative meetings hold with communities for sharing of integrated management plan of CKNP and capacity building of staff in wildlife, livestock assessments and pastures management with the help of partner organizations. Awareness campaigns were carried out to better explain the conservation agenda. As result, changes observed in the communities perception as they favour the CKNP and its interventions in the area.

AC1b Establishment of an ecologically sustainable CKNP headquarter (Ev-K2-CNR)

In 2013 the first block of CKNP head quarter building has been completed and inaugurated by the Chief Minister Gilgit-Baltistan. Inauguration of CKNP Headquarter took place during the event celebration of Italian Science and Cooperation at the Shadow Of K2 in the presences of many government representatives, politicians and a large number of guests from different walks of life.



Central Karakoram National Park

AC1d Capacity building for key stakeholder involved in CKNP management (Ev-K2-CNR & CKNP)

During the year targets were to enhance the capacity of CKNP staff through short training courses and workshops and participation of staff in research meetings and field missions of the partner organizations. CKNP staff participated in the trainings and workshops organized by different partners during the period, such as on Glaciers Security Risk Assessment. A training on wildlife and livestock management for all the CKNP gamewatchers has been held in March. CKNP and Ev-K2-CNR completed along the year a massive campaign within all the CKNP Valleys for sharing the CKNP Management Plan prescriptions, rules and boundaries.



Inauguration of CKNP head quarter building with Mr. Syed Mehdi Shah, Chief Minister Gilgit - Baltistan, Mr. Agostino Da Polenza, Ev-K2-CNR President and Ms. Stefania Mondini, Executive Coordinator.



Concordia Rescue Team training.



Italian People, Agostino Da Polenza and Franco Mari, meet Ms. Sadia Danish, Minister for Tourism, Sports, Culture, Youth Affairs & Women Gilgit Baltistan and Prof. Najma Najam, KIU Vice Chancellor, to show the CKNP map.

Component: visitor facilities in CKNP and bufferzone and visitor management established or improved

AD1a Establishment and implementation of sanitation maintenance- and waste management schemes for existing campsites along major trekking routes (MGPO)

Under this activity efforts have been made to improve existing toilet system at campsites, streamlining camp management and repair and maintenance work at the campsites in the CKNP controlled tourist area. In the reviewed period transparent central fee collection mechanism implemented for all three campsites (Jhula, Payu and Urdukas) with mutual agreement and consent of the stakeholder and communities. Stakeholder meetings conducted to streamline issues related to campsite management. Refresher training conducted for the campsite supervisors and staff for upkeeping of the campsite and waste management. Garbage Bags supplied and at the end of the tourist season garbage collected, segregated and disposed. The tourist expressed their satisfaction on this initiative and considered it an effective step to up keep the natural beautify of the area, captured through closure season performances reviewed assessment.

AD1b Development of arable land in Askole in relation to and infrastructural improvements of existing campsites (MGPO)

In 2013, plans and estimations completed for all campsites. plans for improvement of campsite at Askole entry point is finalized and physical work has been initiated. Plans to enhance the facilities at other campsites are also finalized for Jhula and Payu, Korofong and Bardumal and work on water supply improvement initiated.

AD1c Establishment of tree plantations in Hisper campsite (WWF)

Hisper campsite plantation has been carried out at two sites namely Gurbon and Riverbed in the previous years. In the current year 1000 additional plants are planted and follow-up visits conducted to the plantation sites to assess progress and post-care. Plant survival was assessed and found very good which is relatively low at Gurbon may be due to high altitude. A meeting also held with VCCs during the visit on effective protection of the plantations and the community has assured replacement of dried plants in the following season. It was assessed during the visit that about 80% of plants planted in spring 2013 are surviving in the river bed area.

AD1d Establishment and improvement of Park Entrance Points including camping, CKNP field office and visitor registration facilities (MGPO)

In the current reporting period under this activity the construction of Askole entry point building has been completed and handed over to the CKNP Directorate for use with all its fittings and fixtures and other allied facilities.

AD1e Establish visitor information and registration for CKNP (Ev-K2-CNR & CNKP)

Under this activity visitors registration process remained continue in the current reporting year. All three entry points (Askole, Hushey and Hisper) have been put on running, construction works at Hushey Entry point has reached up to roof level and the entry process for the summer season carried out and collected data analyzed.

AD1f Improvement of Park signage (CKNP)

A list of suitable sites was developed by park staff for fixing of sign/ information boards at different locations. The designs have been developed and 48 sign boards have been manufactured and fixed at appropriate places. A total of 28 damaged signage in different locations were also repaired.

AD1g Carry out trail upkeep and maintenance services (CKNP)

Under this activity 9 tracks, having a cumulative 51 kilometer length, were repaired and maintained. Construction and repair of 3 foot bridges at Siacho nullah, Dumsum and Humrog viewpoints and also completed.



A Pakistani man realizing a wicker basket in a traditional way

Component: cknw waste management improved

AD2a Establishment of two ecological platforms at Concordia on the Baltoro Glacier for the sustainable management human waste (Ev-K2-CNR)

In 2013, 4 new ecological platforms have been built and now a total 15 ecological platforms are available. All the platforms have been installed and managed during the tourist season. 3750 kgs of human waste collected and transported from the glaciers by seasonal staff based in Concordia.

AD2b Carry out solid waste cleanup campaigns on major trekking routes (Ev-K2-CNR & ACP)

Cleanup campaign carried out and 3.200 kgs of garbage and waste collected, transported in the down area and disposed. Burnable waste burned in the incinerator at Askole sellable waste sold out. Carcasses of death animals removed from the glaciers and properly disposed in safe places. A mechanism is initiated in collaboration with the local government to avoid the waste spreading on mountains and glaciers by restricting climbers and trekkers. Three different colors printed waste collection bags handed over to clean up team and tourist to collect waste and take it down. In 2013 a positive initiative was taken by tour operators to collect the waste from Base camps and deposited to the cleaning team in Concordia, which reflects sensitization of the local concerns as result of SEED's effort.



Maurizio Gallo, Project Manager Ev-K2-CNR SEED Activities, meets with local people about CKNP management.

Component: quality of tourism services improved

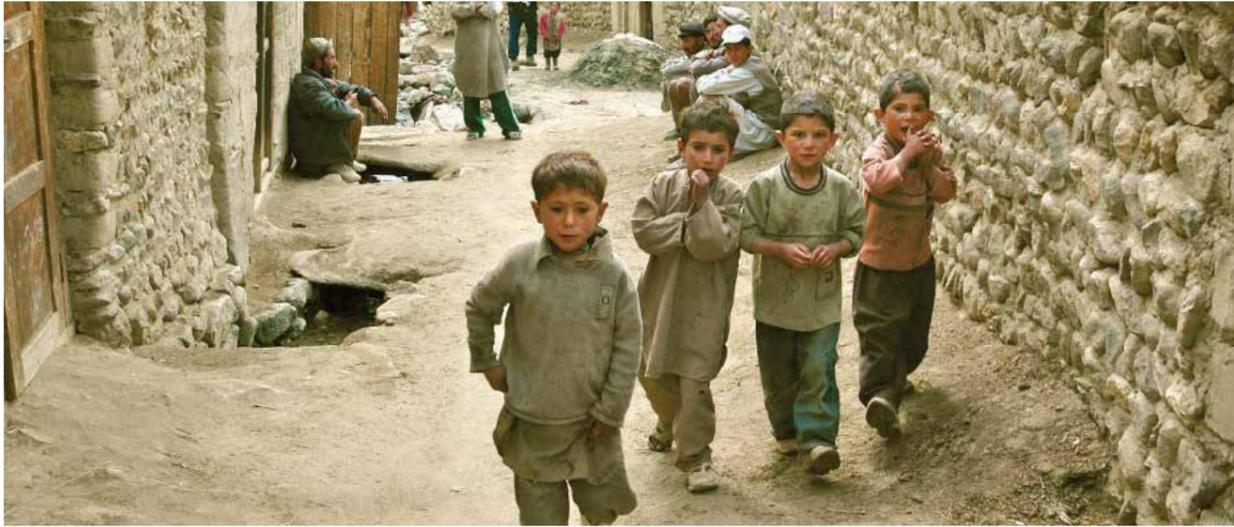
AD3b Carry out training courses for trekking leaders and guides (Ev-K2-CNR & ACP)

A new initiative has been launched in 2012 by Ev-K2-CNR in the framework of this activity: the "Concordia Rescue Team". The rescue service is made up entirely by qualified Pakistani staff: mountain rescue technicians and paramedics, all experienced, acclimatized and specifically trained. The emergency service has two tasks: helping in case of accidents on the mountains and maintaining safe the trekking routes on the glacier and providing medical assistance to tourists, climbers and porters. For the first aid and treatment at high altitude, the team operates in the Park in partnership with the 1122 Pakistan Emergency Service. Starting from 2012, the training courses under this activity are carried out specifically for rescue team staff. A 10 days refresher training course for the Concordia Rescue Team held in April 2013 for 8 climbers and trekking guides and 10 rescuers of rescue 1122. In Autumn 2013, a training course for 8 staff members of 1122 Emergency Service Skardu and 12 staff of Gilgit has been arranged in collaboration with the Italian Corpo Nazionale Soccorso Alpino (Mountain Rescue Organization).

Component: traditional wood craftsmanship and cultural heritage and of cknw and bufferzone preserved and promoted

AD4c Renovate traditional architecture and village-layouts in Askole (Ev-K2-CNR)

Under this activity the Askole Mosque Renovation works started in early spring. Local workers coordinated and organized by international architects. Wooden works conserved and restoration works completed.



Pakistani children.



Central Karakorum National Park landscape

AD4d Establishment of a cultural/historical museum in Askole (Ev-K2-CNR)

Under this activity Askole Museum is being run and maintained permanently. In the current year as recorded at the end of the season, 389 tourists visited the museum and expressed their admiration and applauded the effort of setting up a museum in Askole on the way to mighty K2 and Baltoro.

AD4f Support (traditional) wood working craftsmanship (KIU)

Ten people from CKNP region Skardu have received successful trainings through BCDF. The number of total trained people has become 40. Training will carry on during next year to reach the target of 84 people. The trainees have produce wooden products which will be displayed in the display centers in Gilgit and Skardu. The products were already displayed during different local events, and visitors took interest in the products, which reflects a positive image of SEED's effort on the skill development of local craftsmen. Furthermore, two display centers are being constructed at Gilgit and Skardu respectively.

CKNP MANAGEMENT PLAN

In October 2012, the draft of the first version of the Management Plan for the CKNP and related research protocols (Version 1.0), was presented to the stakeholders and then implemented, arriving in March 2013 to the Integrated Park Management Plan for CKNP - Version 1.1, which allowed the real structuring of the CKNP through the definition of: Park's boundaries; A Core Zone and a Buffer Zone inside the Park boundaries; Core Zone and

Buffer Zone internal zonation; Management indications within the different identified areas. This version was provisionally approved by the Gilgit Baltistan Chief Secretary on November 6, 2013, subject to incorporation of comments put forth by the relevant Departments.

Taking into consideration the application of a "Participatory Approach", CKNP boundaries and internal zonation and the related management

indications contained in the Management Plan have been shared and discussed with both the competent institutional bodies, following up on the requirements recommended by the Government of Gilgit Baltistan in the provisional approval, and local communities living in the vicinity of the Park.

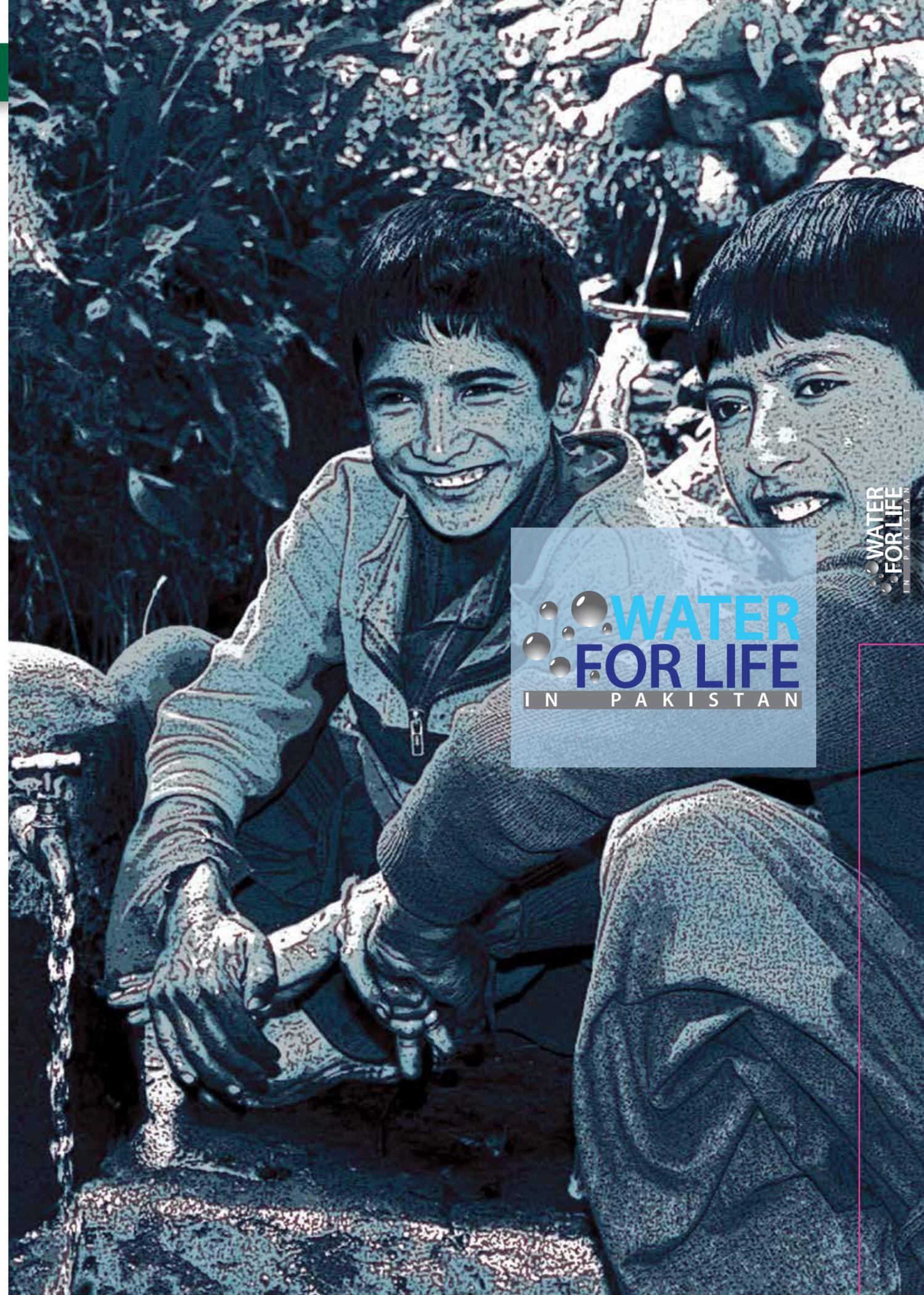
With regard to local communities, this significant consultation phase took place between March 14 and July 2, 2013.

The process involved the entire CKNP area while allowing to obtain important data on the use of traditional natural resources, on the villages having use rights within the CKNP boundaries. Consequently, following public meetings with communities and institutions held during the implementation phase of the Management Plan planning process, different advices, comments, feedbacks emerged and allowed the updating of some Park management rules with regards to the following topics: zones, admission (including the admission for research purposes), fees, rules (movement and stay), specific indications

for activities to be carried out within the Park.

The process of consultation has been also carried out at levels of local Government and stakeholders, as described in the following diagram and table. During the meetings with relevant local government's representatives, different priority issues have been discussed, particularly: Entry Fee proposal; - CKNP Directorate responsibility for Campsites management; Institutional and Financial future of the CKNP Directorate (PC IV; PC1-Phase 2).

This process led to the drafting of Management Plan for CKNP - Integration, Maps, Operational Plans) which complements the version 1.1 of the Management Plan of CKNP with the information agreed with the institutional bodies and local communities, thereby leading to a version of the Management Plan which makes the CKNP operating. The CKNP Management Plan and its Integration and Operational Document has been approved in April 2014 by the local Government of Gilgit Baltistan.



**WATER
FOR LIFE**
IN PAKISTAN

WATER
FOR LIFE
IN PAKISTAN



From limitative component to resource for a socio-economic sustainable development

The project, co-funded by Fondazione Cariplo, aims at providing concrete and enduring support for primary needs of local populations living in Basha Valley (Central Karakorum National Park) by transforming water resources from a limitative factor into a primary and essential resource for a sustainable socio-economic development, which, in these areas, is principally related to agriculture.

PROJECT AREA

Central Karakorum National Park (Pakistan)

PROJECT OBJECTIVES

- To improve water resources in the Gilgit-Baltistan Region in Pakistan
- To improve socio-economic conditions in the area through sustainable agricultural development, generated by the valorisation of water resource.



Project coordinator:
Franco Mari (Ev-K2-CNR)
Web Site: http://evk2cnr.org/cms/it/ricerca/programmi_integrati/fondazione_cariplo

2013 RESULTS

In order to promote the efficient management of freshwater biodiversity and eventually inverse its decline, the project activities aimed at improving water quality in the area through two steps: an assessment (and tracking) of the situation and problem areas through the establishment of a water quality monitoring scheme and building of capacity to implement it in conjunction with water quality research; based on this assessment and on the analysis of the data: identification and establishment of effective means to address water quality-related problems in the CKNP region.

In April through field works expedition in Basha Valley, water samples for chemical and microbiological analysis have been collected.

Samples have been collected from water tanks, water taps, streams and springs.

6 sites have been sampled (Dogoro Gone, Dogoro Lul, Dogoro Hango, Basha River, Hemisil Tank and Hemisil Tap). One Researcher of Karakorum International University, Mr. Azhar Hussain, visited Italy in October for a training course, at Padua University.

During the time in Italy the researcher has been trained on soils analysis methods with particular regard to physical parameters and GHG measures

techniques.

Food processing factory has already been established and running in Skardu in collaboration with SEED Project. After equipment installation at factory production process has been started and procurement of 48.5 kg Cherry, 4376 kg apricot, 587 kg Mulberry, 889 kg kernal, 925kg completed.

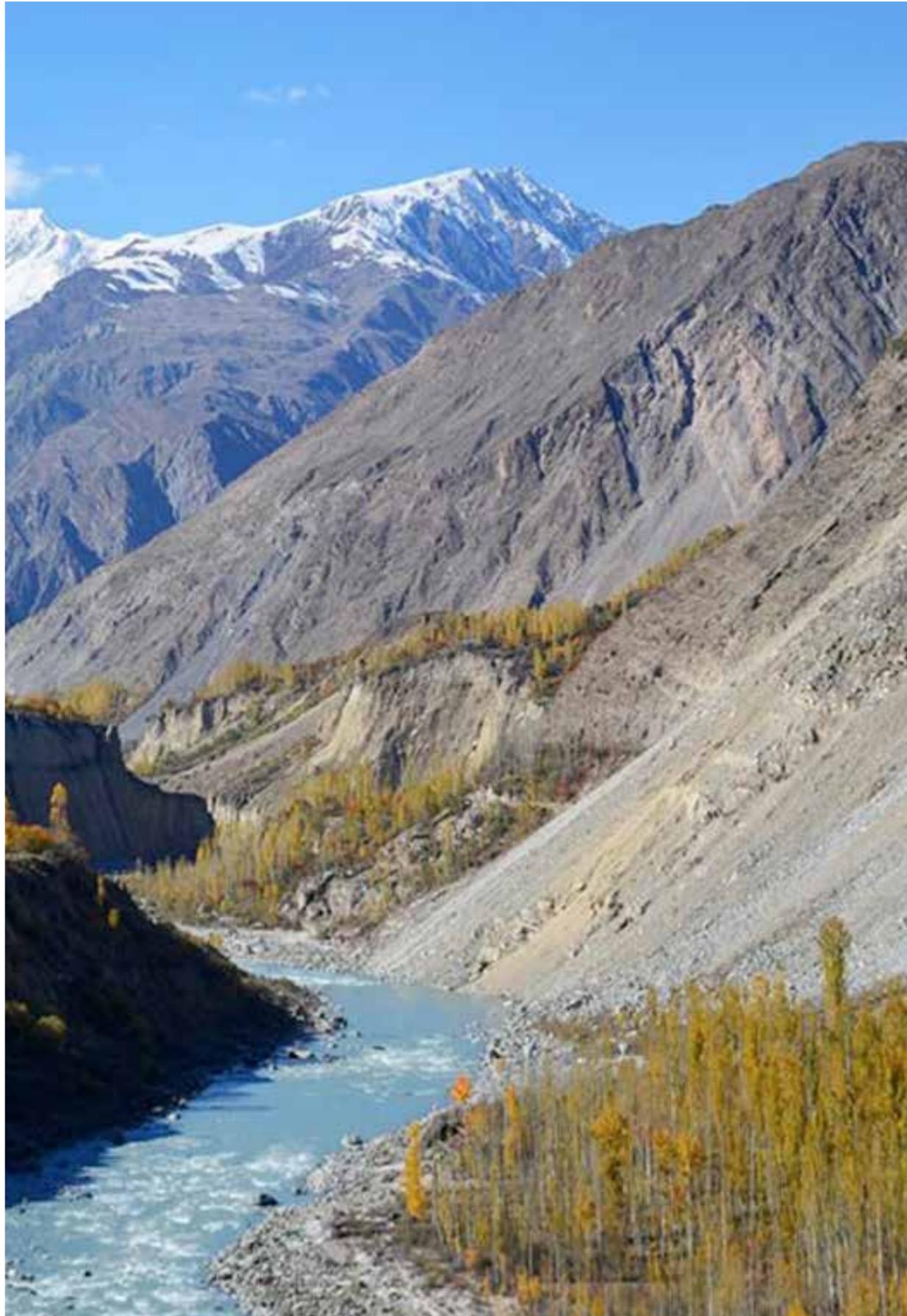
Under the framework of the initiatives related to the global awareness two spread interrelated means dedicated to the relations among water cycle, pollution and climate change have been produced. Particularly:

- a guide book for teachers and students. It consists of six chapters preceded by an introduction describing the Water For Life Project;
- a videogame for students mainly aimed at assisting learning through interactive activities.

The video game is composed by six levels, which take up the guide chapters, each one with some quiz and some proof aimed at helping the Yeti Alfred K. Everest to accumulate snow or close ozone hole, etc.

Both the above mentioned global awareness products are divulgated on the ANSA web site.

The project successfully concluded on November 30, 2013 by concluding all the planned project activities.



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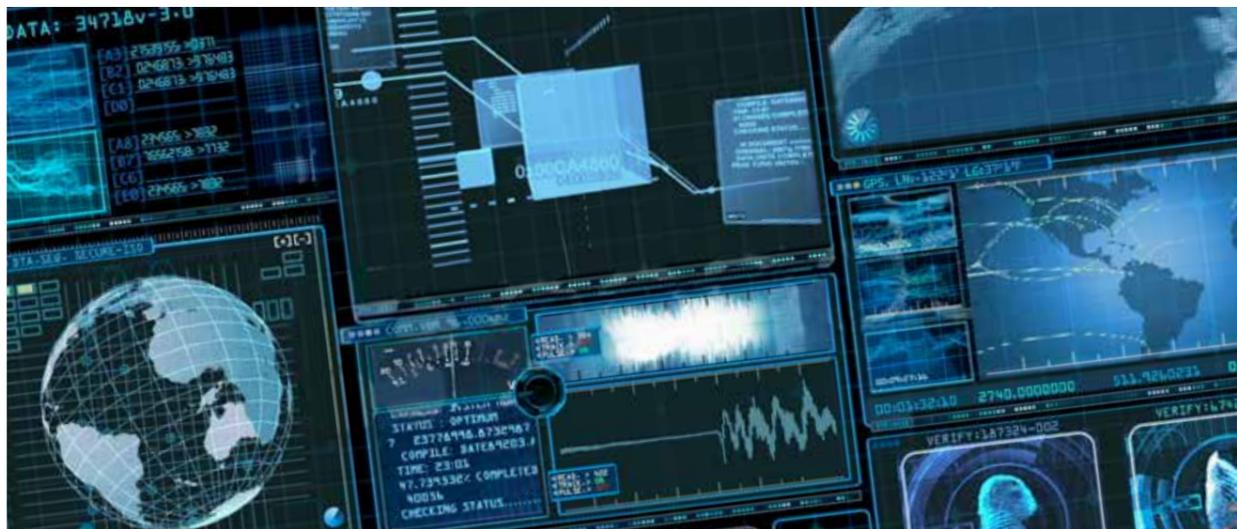
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la raccolta, conservazione,
accessibilità e diffusione
dei dati ambientali
e climatici in aree
montane e
marine

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NextData



Sameer Akbar, Senior Environmental Specialist expert in climate change of the World Bank Headquarter in Washington DC, visits the Suskat station, Kathmandu.

NextData is a four year project, coordinated by the Italian National Research Council - Department of Earth System Sciences and Technologies for the Environment and funded by the Ministry of Education, University and Research (MIUR) in the framework of the 2011-2013 National Research Programme (Programma Nazionale della Ricerca PNR 2011-2013). The NextData Project is a national system for the retrieval, storage, access and diffusion of environmental and climate data from mountain and marine areas and its central goal is to create a system of archives and thematic portals which will make environmental and climate data and scientific results openly available. And pilot studies will be carried out for obtaining new estimates on the

availability of water resources and on the effects of atmospheric aerosols on high-altitude environments, as well as new assessments of the impact of climate change on ecosystems, health and societies in mountain regions. The system of archives and the scientific results produced by the NextData project will provide a unique data base for research, for environmental management and for the estimate of climate change impacts, allowing for the development of knowledge-based environmental and climate adaptation policies.



Project Coordinator:
Antonello Provenzale (ISAC-CNR)
Website: www.nextdataport.it
www.nextdataport.eu

PROJECT AREA
Italy with a special focus in the worldwide mountain regions too

PROJECT OBJECTIVES

- To favour new and ongoing experimental measurements, observational campaigns and numerical simulations on the present climate in high altitude regions, with special focus on Italian mountains and the Himalaya-Karakoram regions;
- To develop new climatic reconstructions for Italy and for Mediterranean region;
- To produce climatic projections for the next decades in the Alps and Apennines, for the whole Italian territory and for the other mountain areas of interest.

PROJECT STRUCTURE

Sub-project 1: Integrated observation system for environment and climate monitoring

- WP 1.1 High-altitude climate observation system
- WP 1.2 GAW-WMO climate observatories
- WP 1.3 Marine observation systems and climate reconstructions
- WP 1.4 Environment and climate data from ice cores
- WP 1.5 Paleoclimate data from marine sediments
- WP 1.6 Paleoclimatic data from

continental regions
WP 1.7 Mountain ecosystems and biodiversity

Sub-project 2: Long-term system of digital data on climate and environment, and pilot studies on data use

- WP 2.1 Archive of high-altitude observation networks
- WP 2.2 Archive of marine observation networks and climate reconstructions
- WP 2.3 Archive of data from non-polar ice cores
- WP 2.4 Archive of paleoclimatic data from sediment cores
- WP 2.5 Archive of numerical simulations and projections
- WP 2.6 Pilot studies on data use, dissemination and project coordination
- WP 2.7 General Portal for data access

In this context, Ev-K2-CNR, on behalf of URT Ev-K2-CNR, a third Parties Unit of Research of the Italian National Research Council, is responsible of two of the main project activities concerning the climate ground based monitoring and the implementation of ground based data portal through Geonet-work Platform.

In particular Ev-K2-CNR plays an active role in the following WPs 1.1, 1.2, 1.4, 1.7, 2.1, 2.3, 2.4.



Colle del Lys ice core field camp

2013 RESULTS

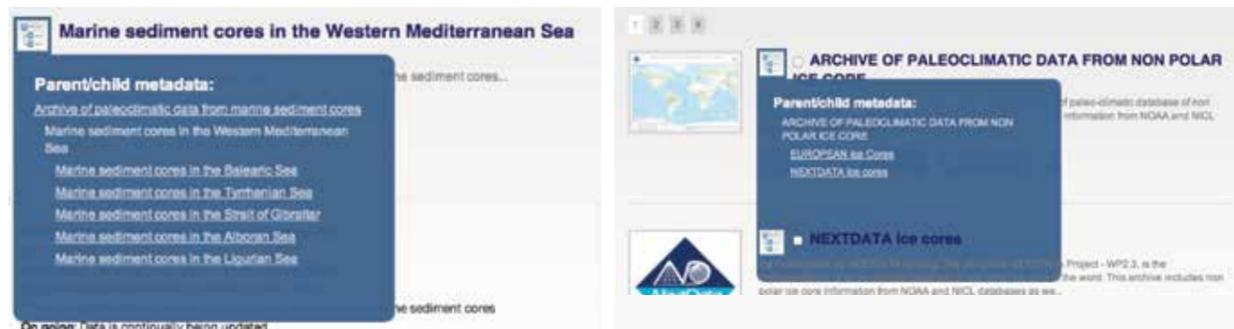
In 2013 Ev-K2-CNR has carried out all the activities planned in executive program and foreseen results, deliverables and milestones were achieved. Ev-K2-CNR in collaboration with ISAC-CNR prosecuted the maintenance and the strengthening of the meteorological network in HKKH, Rwenzori and Italian Alps and of the WMO-GAW observatory at the Pyramid. Data processing, quality control and validation has been also carried out and validated data have been submitted to the general portal.

In the framework of glaciological activities lead by University of Milan-Bicocca, Ev-K2-CNR -performed a field geophysics survey in summer 2013 in Pakistan Gasherbrum area to identify a proper site for the drilling of an ice core in the Karakorum area. Ev-K2-CNR also contributed to Next-

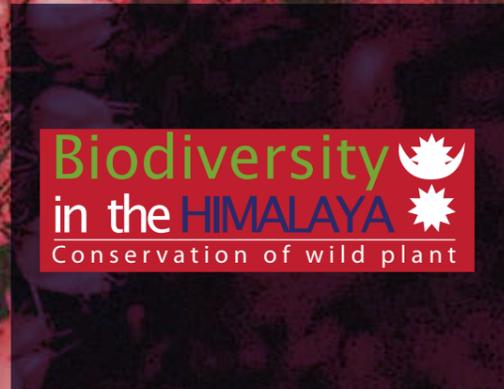
Data pilot project through the University of Pavia which performed the monitoring of climate change effects on plant biodiversity in the Stelvio National Park.

Focuses of the research were the effect of temperature and water availability variations on plant reproductive performance, seed germination, seed longevity and viability, seedling recruitment and survival.

The implementation of project archives for ground data were pursued and the system was strengthened to improve the facility for data and metadata accessibility for monitoring station data, and it was started the designing of two archives dedicated to Ice cores and marine sediment cores from the Mediterranean area. Geonetwork platform is also used for the archive of data from glacier features and snow cover.



Hierarchical levels of metadata associated with glacial and marine cores.





Nepalese researcher, Dhital Deepa, at Himalayan Seed Bank, Nepal, at work, for seed identification.

This is a biannual project promoted by the Ev-K2-CNR Committee and co-funded by the Municipality of Milan in the framework of the call "Milano per la difesa, incremento e valorizzazione della biodiversità. Contributi a favore della solidarietà e della cooperazione internazionale - anno 2010."

In synergy with SHARE project, this initiative aimed to start and make independent over the long period, plant biodiversity conservation in Nepal, through ex situ conservation actions of Himalayan wild plants in the first Seed Bank dedicated to them (hosted in NAST laboratory, at Laliptur, Kathmandu), and to improve the knowledge of these

topics by local scientific institutions (NAST, TU) and local communities. The project focused the attention on the conservation of those species that will also ensure greater food security and human health for future local generations, while protecting biodiversity, and with the prospect of achieving an eco-sustainable development. This aspect is also in line with one of the main themes of EXPO2015.



Project Coordinator:
Graziano Rossi (University of Pavia)
Web Site: http://www.evkc2cnr.org/cms/en/research/integrated_programs/conservation

PROJECT AREA

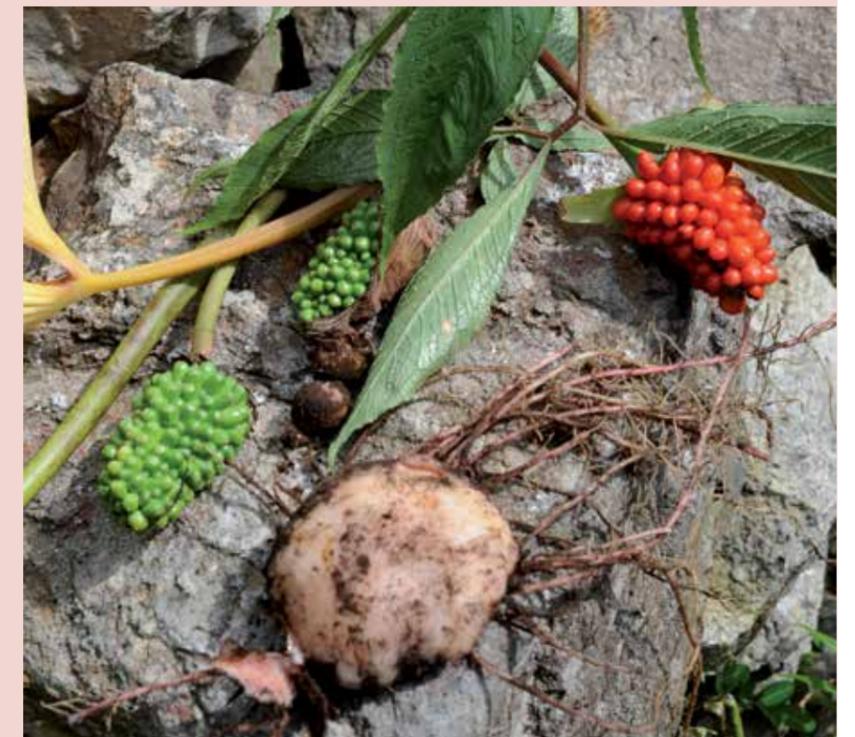
Sagarmatha National Park, Khumbu Valley, Kathmandu (Nepal)

PROJECT OBJECTIVES

- To conserve the plant biodiversity in Nepal, through ex situ conservation actions, with particular focus on wild medicinal, alpine, subalpine plants and spontaneous relatives of cultivated species (Crop Wild

Relatives CWR) and landraces.

- To increase and improve the conservation of the seeds used in farming actions by local people through the promotion of community seed bank.
- To promote capacity building actions for local researchers, technician and people, increasing their knowledge about the sustainable management of natural resources.



Traditional vegetables cultivated in Chaurikharka Village



Setting of the experiment at Pyramid Laboratory Observatory to study the regeneration from seeds of Himalayan alpine plant in relation to climate change

2013 RESULTS

- Seed banking conservation activities (cleaning, characterization, dehydration and freezing) continued at Himalayan Seed Bank, according to the international standards requested by Millenium Seed Bank (UK). In particular, 200 samples of seeds of endemic species and medicinal plants, with relative herbarium and leave samples, were collected during the project and ex situ conservation actions were promoted.
- The training activities were organized for HSB researchers, in order to transfer the techniques of seed cleaning and

storage, according to the ENSCONET conservation standard protocol concerning the germination tests and the subsequent monitoring of germinated seeds with partial and final scoring, cut test and seed counter in order to quantify the size of each sample both in situ and from remote (e-learning) and by study trips at the University of Pavia.

• Training courses were organised during the field missions were knowledge on local flora, on seed collecting techniques and the necessary information for using the equipments on the field (GPS, altimeter, Himalayan flora handbook etc..) where transferred from Italian researchers to Nepalese people involved in the project.

• An experiment, in the field, near the Pyramid Laboratory Observatory was set up in order to study the regeneration from seeds of Himalayan alpine plant in relation to climate change.

• Promotion and dissemination activities at national and international levels (organization of events, participation at conferences and institutional meetings, realization of informative material, publication of scientific papers...) were guaranteed.

At the end of this project, the activities regarding the plant biodiversity conservation in Nepal will continue in the framework of SHARE project.

Eating local food: the best way to conservation

We can halt the agro-biodiversity loss by consuming local varieties instead of requesting vegetables and cereals from the standard market.

Khumbu Valley (the valley of M. Everest) is still offering to tourists a wide selection of local organic and traditional products. This will assure their cultivation, and will permit to avoid their replacement with new varieties of non-local origin.

Eating them tourists will actively contribute to promote Landraces conservation, stimulating their cultivation by local farmers.

Main local varieties of the M. Everest Valley

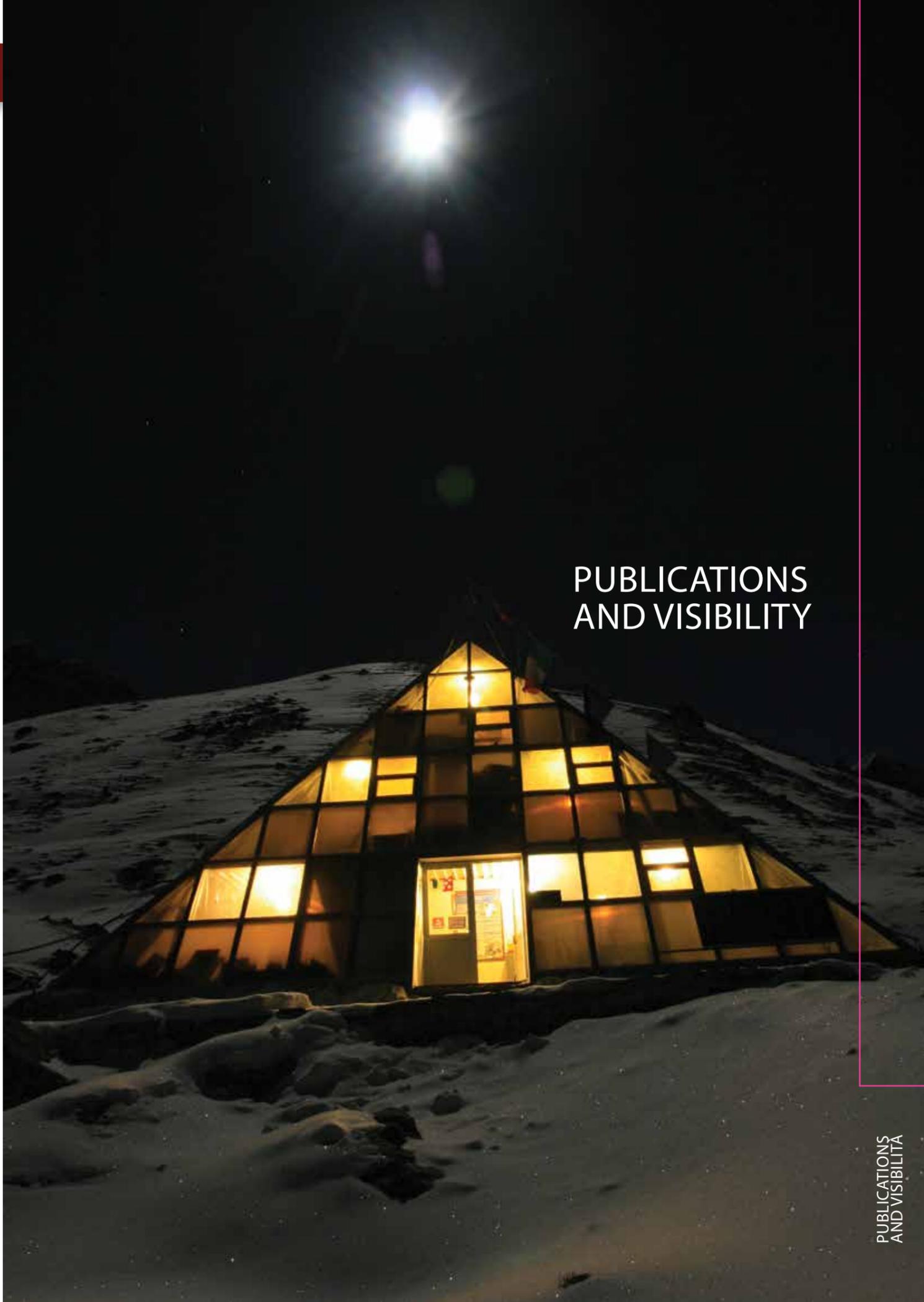
Species Name	Common Name	Nepali Name
Solanum tuberosum L.	Potato	Aadu
Paspalum spp.	Buckwheat	Phappa
Hordeum vulgare L.	Barley	Uttap
Zea mays L.	Mais	Makai
Phaseolus sp.	Lobia bean	Siro
Cucurbita sp.	Pumpkin	Phuro

For more information on the project:
<http://www.nvdc.gov.np/nu/share/>
share-projects@nrc.gov.np

Ancient Landraces and their conservation ...if you eat me, you SAVE me!

SHARE

Brochure realised in the framework of "Conservation of wild plant biodiversity in the Himalaya (Nepal)."



PUBLICATIONS AND VISIBILITY

Ev-K2-CNR events: the year in review



Ev-K2-CNR – NAST Bilateral Technical Committee Meeting

Kathmandu, Nepal, February 13rd - 14th

On February 13rd-14th, 2013, BTC members met to approve the joint scientific activities to be carried out in Nepal in 2013. In total, 24 research projects were presented (8 proposed by NAST and 16 by Ev-K2-CNR). The meeting was co-chaired by Prof. Surendra Raj Kafle, NAST Vice Chancellor, and Dr. Enrico Brugno, Director of Department of Earth System Science and Environmental Technologies – CNR.



CCAC Working Group

Paris, France, March 7th - 8th

During the meeting, thanks to the participation of Dr. Elisa Vuillermoz, the Ev-K2-CNR's activities for studying Short-Lived Climate Pollutants were illustrated to all CACC working group participants.



Ev-K2-CNR Scientific Council Meeting

Bergamo, Italy, June 3rd

Ev-K2-CNR Scientific Council members met to discuss about the research and cooperation activities promoted in the framework of Ev-K2-CNR Program and the activities carried out at Pyramid International Laboratory-Observatory.



Lecco, Italy, October 22th

Ev-K2-CNR Scientific Council members met for the first time, Pakistan and Nepalese Scientific Boards, in order to discuss about the new research and cooperation strategies to be followed in the Pakistan and Nepal, and better reply to real needs of local communities.



Workshop: The changing mountains of Europe: water resources and ecosystems at risk

Brussels, Belgio, October 15th

At Parliament of European Union was organized this workshop, where Ev-K2-CNR delegates took part, showing the main activities carried out in mountain ecosystems, in the framework of climate change.



Summer school Course XXI (Course 2013) "Climate Change and the Mountain Environment"

Valsavarenche, Italy, June 18th - 28th

During the summer school, organized by ISAC-CNR, University of Grenoble, LGGE, IPEV and Ev-K2-CNR, 15 lecturers of international standard and 7 special sessions were organized. Many students worldwide took part at the course.



Workshop on Atmospheric Composition and the Asian Summer Monsoon (ACAM)

Kathmandu, Nepal, June 9th - 12th

This workshop was organized by ICIMOD and NCAR aimed to facilitate the development of collaboration across a broad range of scientific research related to the Asian summer monsoon. Dr. Elisa Vuillermoz, Dr. Paolo Cristofanelli and Dr. Bhupesh Adhikary took part in the meeting, showing the results achieved in the framework of SuSKAT and Pyramid Laboratory – Observatory by EV-K2-CNR.



Special Lecture on High Altitude Physiology

Kathmandu, Nepal, September 29th

Ev-K2-CNR in collaboration with the Italian Embassy in New Delhi, organized in Kathmandu, at Nepal Academy of Science and Technology, a Special Lecture on High Altitude Physiology made by Prof. Paolo Cerretelli and a short presentation of SHARE's results achieved in the framework of Environmental Medicine made by Prof.ssa Annalisa Cogo. The Italian Ambassador, Daniele Mancini, participated at the event with NAST's and Ev-K2-CNR's delegations.



Event: "The Italian science and cooperation at the shadow of K2"

Islamabad, Pakistan, September 9th-13rd

The event aimed at presenting the state of art of current knowledge on Karakoram mountains ecosystem from a scientific point of view and at illustrating mitigation actions to contrast the climate change effects. National and international high-level speakers took part in the conference. Ev-K2-CNR arranged events in collaboration with KIU from September 9 till September 13 in Islamabad and Skardu. The celebration included following areas:

- Scientific conference on glacier, water and ecosystem in Karakorum area;
- Photo exhibition to celebrate the Filippo De Filippi Scientific expedition;
- Mountain Film Festival dedicated to mountaineering and exploration;
- An exhibition to illustrate through banners and posters the results of the research.



This set of initiatives proved concrete opportunity to share and spread efforts and achievements of Ev-K2-CNR Committee and SEED Project for sustainable development of the Central Karakorum National Park. To ensure role of partners and stakeholders in the process all partners and stakeholders were taken on board to executed the activities. The event has been jointly arranged by Ev-K2-CNR in collaboration with KIU under the project activity AB2e Establishment of an International panel of natural resource experts at KIU aimed at supporting CKNP management (Ev-K2-CNR & KIU).

International Conference on "Mountains and Climate Change High Summit – Lecco 2013"

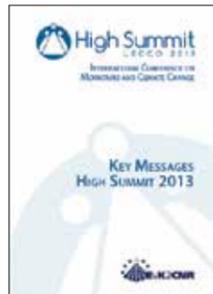
Lecco, Italy, October 23th-25th

Ev-K2-CNR, in collaborations with the Polytechnic of Milan, the Territorial Pole and the Chamber of Commerce of Lecco, organized the International Conference "High Summit - Lecco 2013, Mountain and Climate Change", at the Polytechnic of Milan – Territorial Pole of Lecco, Italy.

The High Summit Conference 2013 aimed at presenting the state of the art of current knowledge on the mountain ecosystem from a scientific and socio-economic point of view.

The participation of high-level speakers moderating the various round tables facilitated the discussions among the experts and the conference audience. At the end of the two working days, a document was produced, summarizing the main outcomes of the meeting.

During the event, a poster session for students and young researchers was organized too.



UN Climate Change Conference COP 19

Warsaw, Poland, November 11th-22th

International Cryosphere Climate Initiative in collaboration with Clean Air Task Force (CATF) and Ev-K2-CNR organized the side event "Cryosphere and Development: Rapid Climate Change in Polar and Mountain Regions - What It Means and What We Can Do About It?" on November 16 and the event "The Day of the Cryosphere" on November 17 in the framework of COP 19. Ev-K2-CNR's delegation was represented by Mr. Agostino Da Polenza, Mrs. Stefania Mondini, Dr. Riccardo de Bernardi, Dr. Bhupesh Adhikary, Dr. Antonello Provenzale, Dr. Sandro Fuzzi, Dr. Mauro Guglielmin and Prof. Claudio Smiraglia.

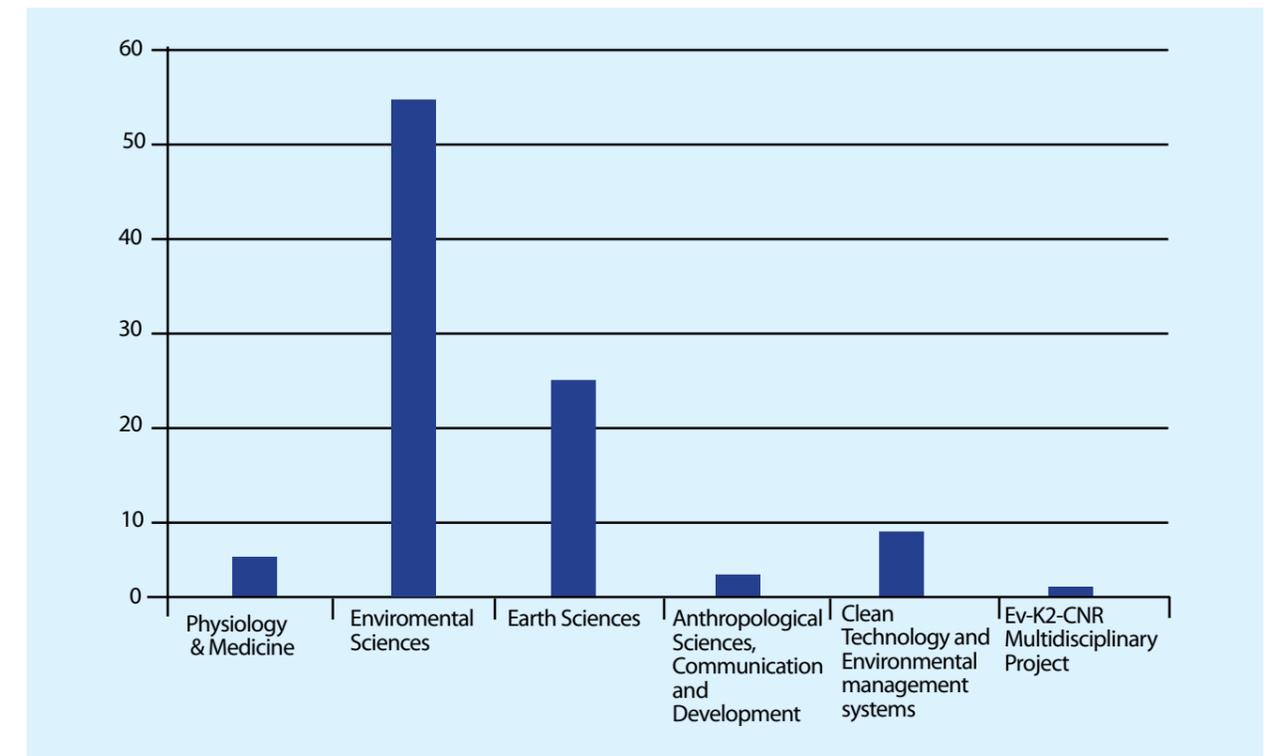
During this occasion the key results of the International Conference "High Summit – Lecco 2013" were presented.

Breathing Himalaya – learn to breath (Impariamo a Respirare)

During 2013, seminars and a travelling exhibition, were organized in a few city of the world, in order to increase knowledge on respiratory diseases and their prevention, with particular focus on Himalayan regions. This programme is organized by Ev-K2-CNR and Interactivecom in collaboration with the University of Ferrara.



Scientific Publications



Papers published in journals with editorial policy

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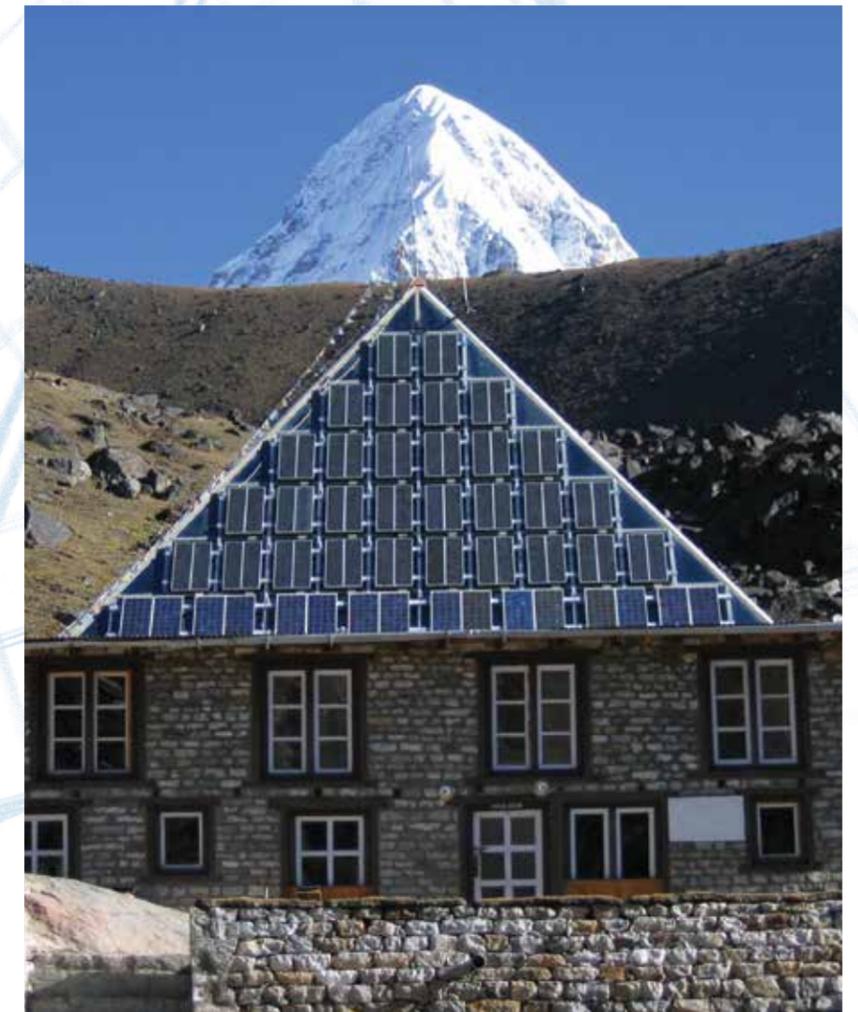
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Giorgio Poretti
Ennio Marsella

Board of Director:

Agostino Da Polenza – President
Riccardo De Bernardi
Francesco Fumagalli
Antonio Ciaschi
Gian Pietro Verza

Auditors:

Marcello Mora
Paolo Moro
Enrico Fornito





Ev-K2-CNR Scientific Council

Chair:

Riccardo de Bernardi

Members:

Thomas Hofer
Aziz Ali Najam
Roland Psenner
Claudio Tomasi
Bruno D'Argenio

Ev-K2-CNR Regional Scientific Boards

For Pakistan:

Aziz Ali Najam
Ashiq Ahmad Khan
Muhammad Akram Kahlowan
Qamar-Uz-Zaman Chaudhry

For Nepal:

Bhupesh Adhikary
Dinesh Bhuju

Ev-K2-CNR Institutional Relationship Responsible

Antonio Ciaschi
Anna Milvia Boselli

CNR External Research Unit "URT Ev-K2-CNR"

Responsible External Research Unit:

Andrea Lami

Members:

Enrico Brugnoli
Franco Prodi
Agostino Da Polenza

Riccardo de Bernardi

Ev-K2-CNR Staff

President's Secretariat

Stefania Mondini (Ev-K2-CNR)
Valerio Carne (Mountain Equipe)

Logistics Management

Alberto Cortinovis (Mountain Equipe)
Elena Vismara (Mountain Equipe)

Administration and Accountancy

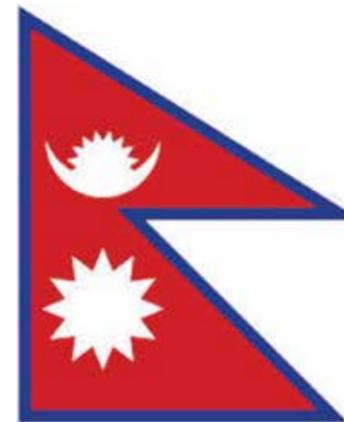
Angela Milesi (Mountain Equipe)
Monica Da Polenza (Mountain Equipe)
Roberto Ferraris (Ev-K2-CNR)

Press and Communications

Francesca Steffanoni
(Mountain Equipe)
Pietro Coerezza (Mountnet)
Sara Sottocornola (Ev-K2-CNR)
Valentina D'Angella (Mountnet)
Raffaele Parma (Consultant)
Sergio Nessi (Mountain Equipe)

Ev-K2-CNR Scientific Research Development Cooperation

Elisa Vuillermoz (Ev-K2-CNR)
Chiara Belotti (Mountain Equipe)
Roberta Toffolon (Mountain Equipe)
Valentina Carminati (Ev-K2-CNR)
Daniela Milanesi (Mountain Equipe)
Luca Listo (Mountain Equipe)
Efre Ferrari (Ev-K2-CNR)
Gian Pietro Verza (Consultant)
Marcello Alborghetti (Ev-K2-CNR)
Maurizio Gallo (Consultant)
Franco Mari (Consultant)
Michele Locatelli (Consultant)



NEPAL

Ev-K2-CNR Representative Office

Hari Kumar Shrestha (Mountain Equipe)
Krishna Das Shrestha (Mountain Equipe)
Sunil Das Shrestha (Mountain Equipe)

Press and Communications

Suvash Sharma (Mountain Equipe)

Pyramid International
Laboratory-Observatory

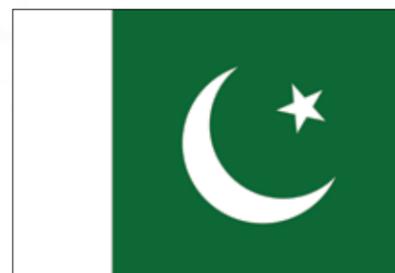
Technical Staff:

Laxman Adhikari (Mountain Equipe)
Kaji Bista (Mountain Equipe)
Pema Sherpa (Mountain Equipe)
Tenzing Chhottar Sherpa (Mountain

Equipe)
Lhakpa Tshering Sherpa (Mountain
Equipe)
Lakpa Tenzi Sherpa (Mountain Equipe)
Sarki Dorjee Tamang
(Mountain Equipe)
Tshering Dorjee Sherpa
(Mountain Equipe)
Sonam Tharkey (Mountain Equipe)
Dawa Tshering Sherpa
(Mountain Equipe)

General staff:

Kesar Bahadur (8000 Inn)
Raj Bahadur Rai (8000 Inn)
Vesh Magar (8000 Inn)
Manoj Kathet (8000 Inn)
Sunil Khadga (8000 Inn)



PAKISTAN

Ev-K2-CNR Representative Office
Riaz Ul Hassan (Ev-K2-CNR)
Nadeem Nazar (Ev-K2-CNR)
Aurang Zaib (Ev-K2-CNR)
Ashiq Ahmad Khan (Ev-K2-CNR)
Arif Hussain (Ev-K2-CNR)
Yasir Abbas (Ev-K2-CNR)
Rubina Payara (Ev-K2-CNR)
Muhammad Ismail (Ev-K2-CNR)

Shezada Maqboon Hussain
(Ev-K2-CNR)
Muhammad Raza (Ev-K2-CNR)
Asif Ali Khan (Ev-K2-CNR)

Ev-K2-CNR Field Unit
Muhammad Raza (Ev-K2-CNR)
Jabir Ansari (Ev-K2-CNR)
Ramzan & Mahdi (Ev-K2-CNR)
Mehdi & Sattar (Ev-K2-CNR)



SEED Project Management Unit (PMU)

Raffaele del Cima
Daniela Giardina
Yasser Sajjad
Iqbal Karim
Ahmer Mujtaba

Hafeez ur Rehman
Amman Ullah Khan
Hira Khaled
Azhar Ayoub
Sahib Alam
Javed Ullah
Ali Mohammad



Balance Sheet 2013

STATEMENT OF ASSETS AND LIABILITIES

ASSETS OF SCIENTIFIC AND TECHNOLOGICAL ACTIVITIES	
Intangible fixed assets	8.950
Participations	6.450
Sundry credits	3.528.182
Accrued income and deferred expenses	79.063
Cash balance	1.050
Investment Fund	60.000
TOTAL ASSETS	3.683.695
LIABILITIES OF SCIENTIFIC AND TECHNOLOGICAL ACTIVITIES	
Devaluation fund / intangible fixed assets	2.645
Banks current accounts	43.768
Capital and reserves	71.948
Debts to suppliers	1.894.622
Sundry debts	725.343
Funds for risks and charges	479.038
Accrued expenses and deferred income	267.576
TOTAL LIABILITIES	3.484.940
Tied Surplus for project	198.755
SUBTOTAL	3.683.695

PROFIT AND LOSS ACCOUNT

EXPENSES	
Operating Charges for Projects	2.476.117
Staff and Collaborations Operating Charges	381.722
Amortisations	350
Various management burdens	46.010
Financial Operating Charges	725
Fiscal burdens	15.015
Provisions for risks and charges	463.492
TOTAL EXPENSES	3.383.431
Tied surplus for projects	198.755
TOTAL BALANCE	3.582.186
INCOME	
Contribution from Italian Organizations	
CNR NextData project	3.309.585
Contributions from International Organizations	
EURAMET (European Metrology Research Programme)	41.923
Contribution from Private Donors	
Financial income	5.603
Varius income	5.075
TOTAL INCOME	3.582.186

Our websites



The official web site of EV-K2-CNR describes all information concerning the association, its staff and its scientific research programmes and cooperation initiatives.

This web site offers also news involving Ev-K2-CNR and regarding mountain, climate change, environment and sustainable development.



The web site has been realized in occasion of the International Conference High Summit, held in October 2013, in Lecco, Italy. During the conference days, and for different weeks before and after the international event, this web site has been regularly updated with information concerning the scientific conference and all correlated events.

Moreover, videos with mountain and climate changes topics and interviews with the conference speakers are available too.



The official web site of SEED project shows through pictures and papers the outcomes that periodically are achieved in the framework of SEED. The web site shows also news and events related to the project.



The Italian web-TV dedicated to the world of mountains. It provides news, information and videos covering everything from mountaineering expeditions to mountain-related politics.

Partners and collaborations



CNR - Institute for Atmospheric Sciences and Climate - *Italy*

CNR - Water Research Institute - *Italy*

CNR - Institute of Ecosystem Study - *Italy*

CNR - Institute of Atmospheric Pollutant - *Italy*

Department of Earth Sciences "Ardito Desio" University of Milan - *Italy*

Centro studi biomedici applicati allo sport University of Ferrara - *Italy*

Department of Earth and Environmental Sciences University of Pavia - *Italy*

Department of Chemical Sciences University of Urbino - *Italy*

Department of Life Sciences University of Siena - *Italy*

Center of Excellence for the integration of remote sensing Techniques and numerical Modelling for the Prediction of Severe weather University of L'Aquila - *Italy*

Department of Structural and Functional Biology University of Insubria - *Italy*

Department of Chemical and Geological Sciences, TeleGIS Laboratory, University of Cagliari - *Italy*

Department of Mathematics and Geosciences, University of Trieste - *Italy*

Department of Industrial Engineering, University of Perugia - *Italy*

National Institute of Oceanography and Experimental Geophysics - *Italy*

Department of Civil and Environmental Engineering, Milan Polytechnic - *Italy*

Department of Earth Science, University of Turin - *Italy*

Arpa Valle D'Aosta - *Italy*

The Abdus Salam International Centre for Theoretical Physics - *Italy*

Italian National Agency for New Technologies, Energy and Sustainable Economic Development - *Italy*
Euro-Mediterranean Centre for Climate Changes - *Italy*

National Institute of Geophysics and Volcanology - *Italy*

CNRS - Laboratoire de Glaciologie et de Géophysique de l'Environnement - *France*

CNRS - Laboratoire de Météorologie Physique - Clermont-Ferrand - *France*

Bavarian Academy of Sciences and Humanity - *Germany*

Universidad Mayor de San Andres - *Bolivia*

Nepal Academy of Science & Technology - *Nepal*

Department of Hydrology and Meteorology - *Nepal*

Sagarmatha Pollution Control Committee - *Nepal*

Eco Himal Society for Cooperation Alps Himalaya - *Nepal*

International Centre for Integrated Mountain Development - *Nepal*

Nepal International Clinic - *Nepal*

Pakistan Meteorological Department - *Pakistan*

Water and Power Development Authority - *Pakistan*

Global Change Impact Studies Centre - *Pakistan*

Department of Meteorology - Ministry of Water and Environment - *Uganda*

College of Architecture & Engineering, Institute of Nuclear Science & Technology, University of Nairobi - *Kenya*

NASA Goddard Space Flight Center - *USA*

NCAR/Earth Observing Laboratory - *USA*

Scripps Institution of Oceanography - *USA*

World Meteorological Organization

United Nations Environment Programme

Institute for Advanced Sustainability Studies - *Germany*



Karakoram International University *Pakistan*

Aga Khan Rural Support Programme *Pakistan*

Alpine Club of Pakistan - *Pakistan*

Government of Pakistan - *Pakistan*

Meteorological Department *Pakistan*

Directorate of Central Karakoram National Park, Forest, Wildlife and Environment Department - Government of Gilgit Baltistan

Mountain Glacier Protection Organisation - *Pakistan*

WWF - *Pakistan*

Baltistan Culture and Development Foundation, Skardu - *Pakistan*

Aga Khan Cultural Service Programme - *Pakistan*

Karakoram International University *Pakistan*



CNR - DTA, Department of Earth System Science and Environmental Technologies - *Italy*

CNR - Institute for Atmospheric Sciences and Climate - *Italy*

CNR - Institute for coastal marine environment - *Italy*

CNR - Institute for atmospheric pollution - *Italy*

CNR - Research Institute for Geo-hydrological Protection

CNR - Institute of Ecosystem Study - *Italy*

CNR - Institute for the Dynamics of Environmental Processes - *Italy*

CNR - Institute of Methodologies for Environmental Analysis - *Italy*
URT Ev-K2-CNR - *Italy*

Department of Earth and Environmental Sciences University of Pavia - *Italy*

Nepal Academy of Science and Technology - *Nepal*

Government of Gilgit-Baltistan, Rescue 1122

CNR - Institute for Atmospheric and Climate Sciences - *Italy*

CNR - Institute of Ecosystem Study *Italy*

University of Padua - Department of Earth Land, Environment, Agriculture and Forestry - *Italy*

Milan Polytechnic - Department of Environmental, Hydraulic, Infrastructures and Surveying Engineering - *Italy*

University of Siena - Department of Environmental Sciences - *Italy*

University of Trieste - Department of Mathematics and Informatics and Department of Geosciences - *Italy*

University of Torino, Department of Veterinary Sciences - *Italy*

University of Milan Bicocca - Department of Land and Environmental Sciences - *Italy*

University of Turin, *Italy*

Italian National Agency for New Technologies, Energy and Sustainable Economic Development - *Italy*

CINECA - *Italy*

Arpa Valle d'Aosta - *Italy*

International Centre for Theoretical Physics - *Italy*

CIMA Foundation, *Italy*

Italian Glaciological Committee, *Italy*

Gran Paradiso National Park, *Italy*

Central Department of Botany, Tribhuvan University - *Nepal*

Chaurikharka Village Development Committee, Solukhumbu District *Nepal*

New agreements

INSTITUTE	OBJECT	AGREEMENT	PERIOD
CNR - Institute of Atmospheric Sciences and Climate, Italy	Collaboration in the framework of WPs 1.1 High-altitude climate observation system and 1.2 GAW-WMO climate observatories (NextData)	Operational agreement	Multi- year
University of Cagliari - Department of Chemical and Geological Sciences, Italy	Database creation in the framework of NextData	Operational agreement	Multi- year
Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Italy	Radiometric measurements of monitoring stations in Nepal (NextData)	Agreement	One year
University of Pavia - Department of Earth and Environmental Sciences, Italy	Pilot Project study: effect of climate change on Alpine Plants (NextData)	Agreement	Multi- year
University of Milan – GESDIMONT, Italy	General collaboration in common research fields	General Cooperation Agreement	Multi-year
University of Insubria - Department of Structural and Functional Biology, Italy	Permafrost studies in Karakorum and Himalaya	Collaborating agreement	Multi- year
University of Perugia - Department of Industrial Engineering, Italy	Experimental development of sustainable energetic and environmental solutions in the Khumbu Valley (SHARE Capacity Building)	General Cooperation Agreement and Operative Protocol	Multi-year
ARPA Valle D'Aosta, Italy	Data and metadata of ARPA station transmission to Geonetwork portal, permafrost group support	Agreement	Multi- year
National Institute of Oceanography and Experimental Geophysics, Italy	Geophysical research activities in Karakorum and Himalaya	Scientific collaboration agreement	Multi- year
Global Change Impact Studies Centre, Pakistan	Climate change research activities in Pakistan	Memorandum of Understanding	Multi-year
Pakistan Water and Power Development Authority (WAPDA), Pakistan	Research activities in the framework of SHARE and SEED projects	Memorandum of Understanding	Multi-year
Gilgit-Baltistan Emergency Service Rescue 1122, Pakistan	Support activities for rescue team (SEED Project)	Memorandum of Understanding	Multi- year
Government of Gilgit-Baltistan, Department of Tourism, Youth Affairs, Sports and Culture, Pakistan	Implementation of projects related to tourism development of the region	Memorandum of Understanding	Multi-year
Gilgit-Baltistan Forests, Wildlife and Environment Department (Government of Gilgit-Baltistan), Pakistan	Projects on climate change adaptations and mitigation, creation of Biosphere reserves in Pakistan	Memorandum of Understanding	Multi-year
Institute for Advanced Sustainability Studies (IASS), Germany	Atmospheric and meteorological studies in Himalaya	Memorandum of Understanding	Multi-year
City of San Carlos, Brazil	Activities to promote socio-economical development in San Carlo City	Memorandum of Understanding	Multi-year
University of Nairobi - College of Architecture & Engineering, Institute of Nuclear Science & Technology, Kenya	Research activities to study atmosphere, meteorological and glaciology in Africa	Memorandum of Understanding	Multi- year





Annual Report

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