



# How Ev-K2-CNR can contribute to developing mountain ecosystem conservation & climate change research initiatives in the HKKH region

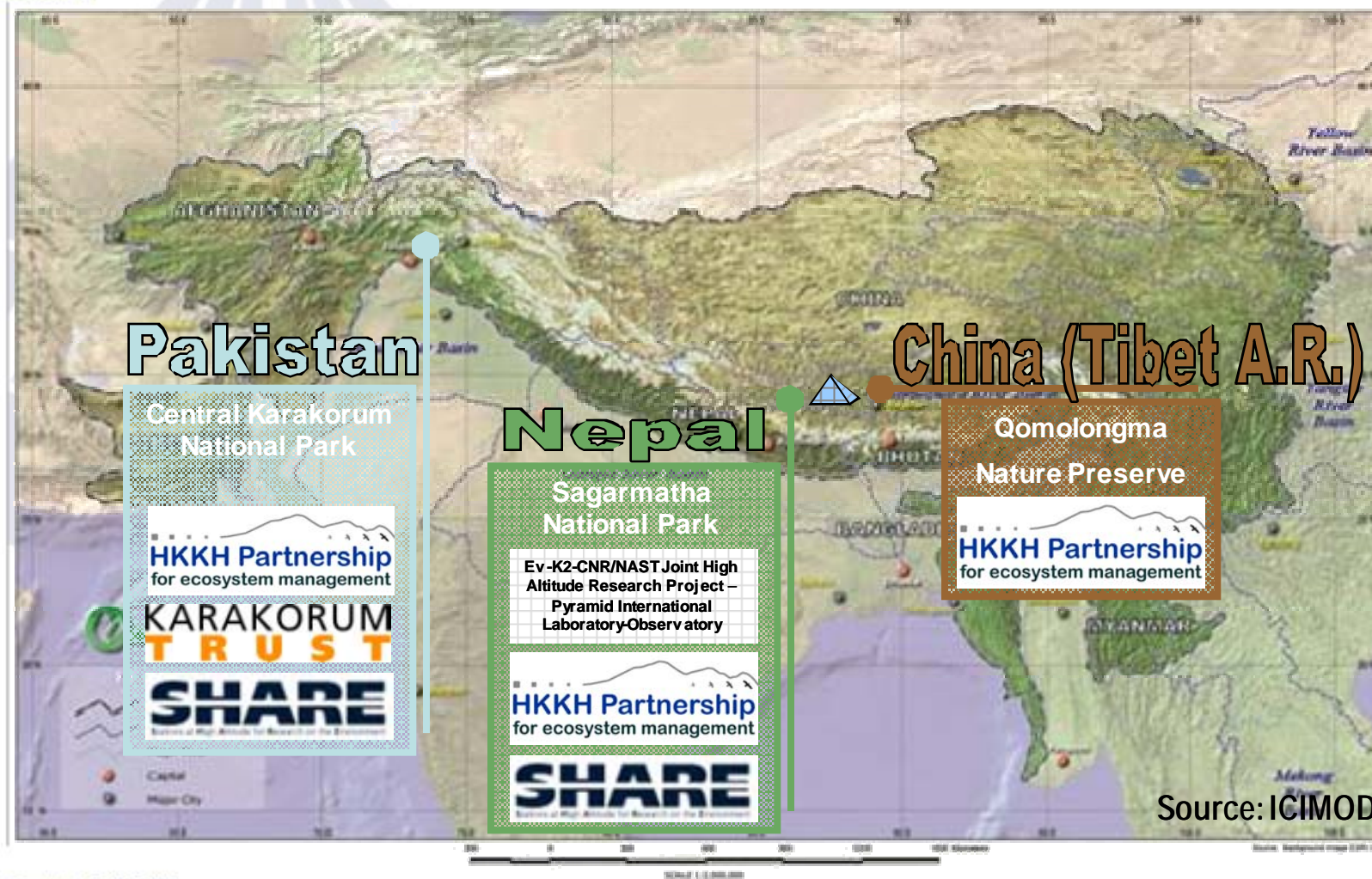
International Mountain Biodiversity Conference  
*ICIMOD, November 16-18, 2008*

*Presented by Dr. Gianni Tartari, Ev-K2-CNR Committee*





# Ev-K2-CNR's presence *in the HKKH region*







# Ev-K2-CNR

*What we already do in the HKKH region:*

## Ev-K2-CNR:

- ♦ Carries out increasingly **management- oriented research**
- ♦ Promotes **multidisciplinary research** across disciplines of Environmental Science, Medicine & Physiology, Earth Sciences, Anthropology and New technologies
- ♦ Makes the **Pyramid International Laboratory-Observatory** (5,050 m a.s.l, Lobuche, Sagarmatha National Park) available to the local and international scientific community
- ♦ Participates in important **international scientific programs** led by UNEP, WMO, GEO, EU, NASA, IGBP, contributing data and elaborations from studies and observations in the HKKH region







# Ev-K2-CNR contributions

*to the challenges faced by the HKKH region:*

- ◆ Promote **sustainable economic development** and **environmental protection**
- ◆ Help build local scientific capacity, promoting the participation of **local research professionals and institutions**
- ◆ Promote **sustainable, knowledge-based management** of high altitude **protected areas**
- ◆ Provide missing **baseline information on high altitude biodiversity** and then help monitor the status of biodiversity
- ◆ Supply unique information for helping face the challenges posed by **climate change**







# Ev-K2-CNR contributions

*Our integrated programs the HKKH region*

## SHARE

Network of High Altitude Research on the Environment



**Scientific Research:** network of high altitude stations, long-term observations, interdisciplinary monitoring in environmental and earth sciences, modeling.

**System Technology:** Nano-SHARE, a complete compact, transportable climate and atmospheric observation system for use at high altitude

**Electronic Information System:** GIS of mountain environments for scientists and decision makers

**Capacity building:** transfer of technology and know-how to local stakeholders

## KARAKORUM TRUST



**Network** of projects focusing on implementation of the Central Karakoram National Park

**Integrated management plan** for CKNP Ecosystem

**Climate change** impact assessment

**Awareness raising and capacity building** on climate change adaptation and ecosystem management

**Knowledge-based decision support system** for the Central Karakoram Ecosystem

## HKKH Partnership for ecosystem management



**Ev-K2-CNR's research component** includes the study of issues such as: forest conditions and sustainable forest management, solid waste management, water pollution, biodiversity, energy, wildlife, the impacts of climate change on forests and glaciers

**Decision Support Toolkit** will comprise results of this research and relevant models to the benefit of local stakeholder institutions in SNP.

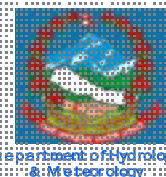




# Ev-K2-CNR partners

*in the HKKH region*

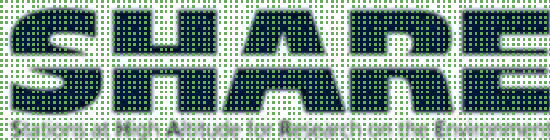
Ev-K2-CNR/NAST Joint High Altitude  
Research Project – Pyramid  
International Laboratory-Observatory



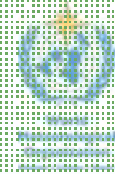
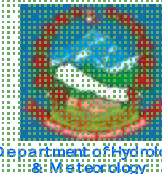
ICIMOD



**Current & Future Role:** collaborative research, joint scientific projects, dissemination of results, local awareness raising, technical management of permanent stations and systems, data downloading & transfer



ICIMOD



**Current & Future Role:** collaborative research, monitoring and assessing impacts, dissemination of results, local awareness raising, technical management of permanent stations and systems, ongoing monitoring activities, data downloading & transfer

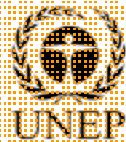




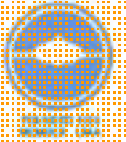
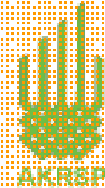
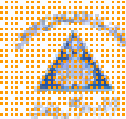
# Ev-K2-CNR partners

*in the HKKH region*

KARAKORUM  
TRUST



ICIMOD



**Current & Future Role:** joint research and development projects, liaising with local authorities, ongoing monitoring and assessment of biodiversity, dissemination of results and awareness raising, implementation of CKNP Ecosystem management plan

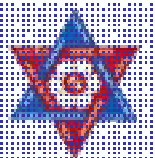
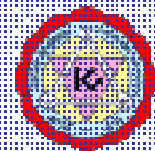
HKKH Partnership  
for ecosystem management

IUCN  
The World Conservation Union

ICIMOD



CESVI



**Current & Future Role:** component-wise collaboration in realization of Decision Support Toolkit, joint management-oriented research, implementation of long-term monitoring plans





# Ev-K2-CNR and ICIMOD

- ▶ Ev-K2-CNR and ICIMOD signed an MoU in 2007 for the promotion and coordination of research and cooperation initiatives in the HKKH.
- ▶ Ev-K2-CNR and ICIMOD collaboratively participate in the UNEP project Atmospheric Brown Clouds (ABC). Data is provided by Ev-K2-CNR through their SHARE stations in Nepal.
- ▶ Ev-K2-CNR and ICIMOD are partners in the "HKKH Partnership Project" along with IUCN and CESVI.
- ▶ ICIMOD will participate in the new phase of the "Karakorum Trust" project being implemented in collaboration with UNEP
- ▶ *Ev-K2-CNR hopes to continue to reinforce their collaboration with ICIMOD, especially to bridge the gap between "pure" science and "applied" research; to benefit from ICIMOD's experience in developing research-based systemic management tools and to work in synergy with ICIMOD's regional network.*







# Ev-K2-CNR looks forward to:

- ✓ further customizing our contributions to developing mountain ecosystem conservation & climate change research initiatives in the HKKH region based on the outcomes of this conference.
- ✓ reinforcing our collaboration with ICIMOD & the other conference participants.
- ✓ using our integrated programs as platforms for innovative cooperation in the HKKH region.





# SHARE Automatic Weather Stations: Kumbu Valley, Nepal



January 1994-2006



- 287 pp.
- Printed in September 2008
- Available in pdf
- Free of charge

Associazione "Comitato Ev-K2-CNR"

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VALIDATED MONTHLY TEMPERATURE (°C) means												
	J	F	M	A	M	J	J	A	S	O	N	D
P110	14.0	13.0	12.0	11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0
P111	13.0	12.0	11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0
P112	12.0	11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0
P113	11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0
P114	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0
P115	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0	-2.0
P116	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0	-2.0	-3.0
P117	7.0	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0	-2.0	-3.0	-4.0
P118	6.0	5.0	4.0	3.0	2.0	1.0	0.0	-1.0	-2.0	-3.0	-4.0	-5.0
P119	5.0	4.0	3.0	2.0	1.0	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0
P120	4.0	3.0	2.0	1.0	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-7.0
P121	3.0	2.0	1.0	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-7.0	-8.0
P122	2.0	1.0	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-7.0	-8.0	-9.0
P123	1.0	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-7.0	-8.0	-9.0	-10.0
P124	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-7.0	-8.0	-9.0	-10.0	-11.0
P125	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-7.0	-8.0	-9.0	-10.0	-11.0	-12.0
P126	-2.0	-3.0	-4.0	-5.0	-6.0	-7.0	-8.0	-9.0	-10.0	-11.0	-12.0	-13.0
P127	-3.0	-4.0	-5.0	-6.0	-7.0	-8.0	-9.0	-10.0	-11.0	-12.0	-13.0	-14.0
P128	-4.0	-5.0	-6.0	-7.0	-8.0	-9.0	-10.0	-11.0	-12.0	-13.0	-14.0	-15.0
P129	-5.0	-6.0	-7.0	-8.0	-9.0	-10.0	-11.0	-12.0	-13.0	-14.0	-15.0	-16.0
P130	-6.0	-7.0	-8.0	-9.0	-10.0	-11.0	-12.0	-13.0	-14.0	-15.0	-16.0	-17.0
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P139	-15.0	-16.0	-17.0	-18.0	-19.0	-20.0	-21.0	-22.0	-23.0	-24.0	-25.0	-26.0
P140	-16.0	-17.0	-18.0	-19.0	-20.0	-21.0	-22.0	-23.0	-24.0	-25.0	-26.0	-27.0
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P144	-20.0	-21.0	-22.0	-23.0	-24.0	-25.0	-26.0	-27.0	-28.0	-29.0	-30.0	-31.0
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P151	-27.0	-28.0	-29.0	-30.0	-31.0	-32.0	-33.0	-34.0	-35.0	-36.0	-37.0	-38.0
P152	-28.0	-29.0	-30.0	-31.0	-32.0	-33.0	-34.0	-35.0	-36.0	-37.0	-38.0	-39.0
P153	-29.0	-30.0	-31.0	-32.0	-33.0	-34.0	-35.0	-36.0	-37.0	-38.0	-39.0	-40.0
P154	-30.0	-31.0	-32.0	-33.0	-34.0	-35.0	-36.0	-37.0	-38.0	-39.0	-40.0	-41.0
P155	-31.0	-32.0	-33.0	-34.0	-35.0	-36.0	-37.0	-38.0	-39.0	-40.0	-41.0	-42.0
P156	-32.0	-33.0	-34.0	-35.0	-36.0	-37.0	-38.0	-39.0	-40.0	-41.0	-42.0	-43.0
P157	-33.0	-34.0	-35.0	-36.0	-37.0	-38.0	-39.0	-40.0	-41.0	-42.0	-43.0	-44.0
P158	-34.0	-35.0	-36.0	-37.0	-38.0	-39.0	-40.0	-41.0	-42.0	-43.0	-44.0	-45.0
P159	-35.0	-36.0	-37.0	-38.0	-39.0	-40.0	-41.0	-42.0	-43.0	-44.0	-45.0	-46.0
P160	-36.0	-37.0	-38.0	-39.0	-40.0	-41.0	-42.0	-43.0	-44.0	-45.0	-46.0	-47.0
P161	-37.0	-38.0	-39.0	-40.0	-41.0	-42.0	-43.0	-44.0	-45.0	-46.0	-47.0	-48.0
P162	-38.0	-39.0	-40.0	-41.0	-42.0	-43.0	-44.0	-45.0	-46.0	-47.0	-48.0	-49.0
P163	-39.0	-40.0	-41.0	-42.0	-43.0	-44.0	-45.0	-46.0	-47.0	-48.0	-49.0	-50.0
P164	-40.0	-41.0	-42.0	-43.0	-44.0	-45.0	-46.0	-47.0	-48.0	-49.0	-50.0	-51.0
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P167	-43.0	-44.0	-45.0	-46.0	-47.0	-48.0	-49.0	-50.0	-51.0	-52.0	-53.0	-54.0
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P169	-45.0	-46.0	-47.0	-48.0	-49.0	-50.0	-51.0	-52.0	-53.0	-54.0	-55.0	-56.0
P170	-46.0	-47.0	-48.0	-49.0	-50.0	-51.0	-52.0	-53.0	-54.0	-55.0	-56.0	-57.0
P171	-47.0	-48.0	-49.0	-50.0	-51.0	-52.0	-53.0	-54.0	-55.0	-56.0	-57.0	-58.0
P172	-48.0	-49.0	-50.0	-51.0	-52.0	-53.0	-54.0	-55.0	-56.0	-57.0	-58.0	-59.0
P173	-49.0	-50.0	-51.0	-52.0	-53.0	-54.0	-55.0	-56.0	-57.0	-58.0	-59.0	-60.0
P174	-50.0	-51.0	-52.0	-53.0	-54.0	-55.0	-56.0	-57.0	-58.0	-59.0	-60.0	-61.0
P175	-51.0	-52.0	-53.0	-54.0	-55.0	-56.0	-57.0	-58.0	-59.0	-60.0	-61.0	-62.0
P176	-52.0	-53.0	-54.0	-55.0	-56.0	-57.0	-58.0	-59.0	-60.0	-61.0	-62.0	-63.0
P177	-53.0	-54.0	-55.0	-56.0	-57.0	-58.0	-59.0	-60.0	-61.0	-62.0	-63.0	-64.0
P178	-54.0	-55.0	-56.0	-57.0	-58.0	-59.0	-60.0	-61.0	-62.0	-63.0	-64.0	-65.0
P179	-55.0	-56.0	-57.0	-58.0	-59.0	-60.0	-61.0	-62.0	-63.0	-64.0	-65.0	-66.0
P180	-56.0	-57.0	-58.0	-59.0	-60.0	-61.0	-62.0	-63.0	-64.0	-65.0	-66.0	-67.0
P181	-57.0	-58.0	-59.0	-60.0	-61.0	-62.0	-63.0	-64.0	-65.0	-66.0	-67.0	-68.0
P182	-58.0	-59.0	-60.0	-61.0	-62.0	-63.0	-64.0	-65.0	-66.0	-67.0	-68.0	-69.0
P183	-59.0	-60.0	-61.0	-62.0	-63.0	-64.0	-65.0	-66.0	-67.0	-68.0	-69.0	-70.0
P184	-60.0	-61.0	-62.0	-63.0	-64.0	-65.0	-66.0	-67.0	-68.0	-69.0	-70.0	-71.0
P185	-61.0	-62.0	-63.0	-64.0	-65.0	-66.0	-67.0	-68.0	-69.0	-70.0	-71.0	-72.0
P186	-62.0	-63.0	-64.0	-65.0	-66.0	-67.0	-68.0	-69.0	-70.0	-71.0	-72.0	-73.0
P187	-63.0	-64.0	-65.0	-66.0	-67.0	-68.0	-69.0	-70.0	-71.0	-72.0	-73.0	-74.0
P188	-64.0	-65.0	-66.0	-67.0	-68.0	-69.0	-70.0	-71.0	-72.0	-73.0	-74.0	-75.0
P189	-65.0	-66.0	-67.0	-68.0	-69.0	-70.0	-71.0	-72.0	-73.0	-74.0	-75.0	-76.0
P190	-66.0	-67.0	-68.0	-69.0	-70.0	-71.0	-72.0	-73.0	-74.0	-75.0	-76.0	-77.0
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P193	-69.0	-70.0	-71.0	-72.0	-73.0	-74.0	-75.0	-76.0	-77.0	-78.0	-79.0	-80.0
P194	-70.0	-71.0	-72.0	-73.0	-74.0	-75.0	-76.0	-77.0	-78.0	-79.0	-80.0	-81.0
P195	-71.0	-72.0	-73.0	-74.0	-75.0	-76.0	-77.0	-78.0	-79.0	-80.0	-81.0	-82.0
P196	-72.0	-73.0	-74.0	-75.0	-76.0	-77.0	-78.0	-79.0	-80.0	-81.0	-82.0	-83.0
P197	-73.0	-74.0	-75.0	-76.0	-77.0	-78.0	-79.0	-80.0	-81.0	-82.0	-83.0	-84.0
P198	-74.0	-75.0	-76.0	-77.0	-78.0	-79.0	-80.0	-81.0	-82.0	-83.0	-84.0	-85.0
P199	-75.0	-76.0	-77.0	-78.0	-79.0	-80.0	-81.0	-82.0	-83.0	-84.0	-85.0	-86.0
P200	-76.0	-77.0	-78.0	-79.0	-80.0	-81.0	-82.0	-83.0	-84.0	-85.0	-86.0	-87.0
P201	-77.0	-78.0	-79.0	-80.0	-81.0	-82.0	-83.0	-84.0	-85.0	-86.0	-87.0	-88.0
P202	-78.0	-79.0	-80.0	-81.0	-82.0	-83.0	-84.0	-85.0	-86.0	-87.0	-88.0	-89.0
P203	-79.0	-80.0	-81.0	-82.0	-83.0	-84.0	-85.0	-86.0	-87.0	-88.0	-89.0	-90.0
P204	-80.0	-81.0	-82.0	-83.0	-84.0	-85.0	-86.0	-87.0	-88.0	-89.0	-90.0	-91.0
P205	-81.0	-82.0	-83.0	-84.0	-85.0	-86.0	-87.0	-88.0	-89.0	-90.0	-91.0	-92.0
P206	-82.0	-83.0	-84.0	-85.0	-86.0	-87.0	-88.0	-89.0	-90.0	-91.0	-92.0	-93.0
P207	-83.0	-84.0	-85.0	-86.0	-87.0	-88.0	-89.0	-90.0	-91.0	-92.0	-93.0	-94.0
P208	-84.0	-85.0	-86.0	-87.0	-88.0	-89.0	-90.0	-91.0	-92.0	-93.0	-94.0	-95.0
P209	-85.0	-86.0	-87.0	-88.0	-89.0	-90.0	-91.0	-92.0	-93.0	-94.0	-95.0	-96.0
P210	-86.0	-87.0	-88.0	-89.0	-90.0	-91.0	-92.0	-93.0	-94.0	-95.0	-96.0	-97.0
P211	-87.0	-88.0	-89.0	-90.0	-91.0	-92.0	-93.0	-94.0	-95.0	-96.0	-97.0	-98.0
P212	-88.0	-89.0	-90.0	-91.0	-92.0	-93.0	-94.0	-95.0	-96.0	-97.0	-98.0	-99.0
P213	-89.0	-90.0	-91.0	-92.0	-93.0	-94.0	-95.0	-96.0	-97.0	-98.0	-99.0	-100.0
P214	-90.0											





# THANK YOU FOR YOUR ATTENTION!

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