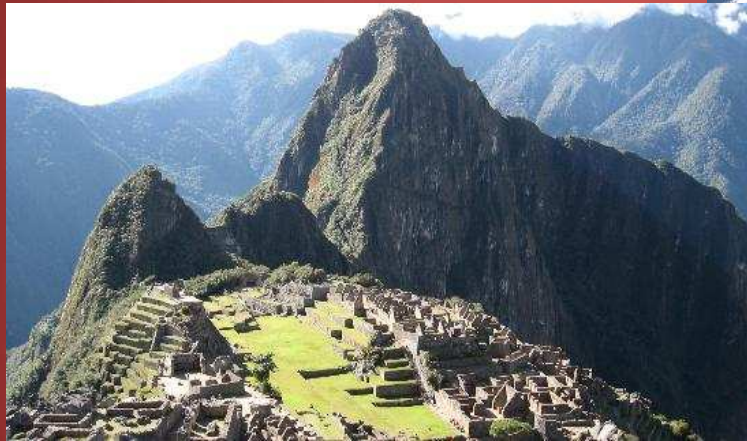




# **HIMALANDES: BRIDGING THE HIMALAYAS AND THE ANDES**



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# Presentation Outline

- The HimalAndes Initiative
- Environmental and Cultural comparison
- HimalAndes thematic initiatives:
  - Agro-biodiversity exchanges
  - Community-based sustainable mountain tourism
  - High Altitude Medicine
  - Glaciology, land-slides, and risk management
  - Renewable Energy
  - Information exchange initiatives
- Conclusions & Next Steps



# HimalAndes Initiative

- Potential & benefits of inter-regional cooperation and exchange between the two main massive mountains regions of the world, the Hindu Kush/Karakorum /Himalayas and the-Andes
- Cooperation efforts since 1992
- Some HimalAndes thematic initiatives:
  - Agrobiodiversity: Agriculture, Livestock
  - Renewable Energy
  - High Altitude Medicine
  - Glaciology, land-slides, and risk management
  - Community-based Sustainable Tourism
  - Information Exchange Efforts



# Environmental Comparison



## **High Mountain Environments:**

- Harsh, rough, restrictive factors for survival
- Fragile, constrains and low productivity
- Austere, highly specialized
- Ancestral mountain cultures with a long lasting tradition of specialization / adaptation to high mountain environments
- Intertwined life forms, exchange, symbiosis and reciprocity



# Cultural Comparison

## HIMALAYAS



- Spiritual confluence: Hinduism, Buddhism, Islamism, natural animism and local cults
- Seasonal highland passages: paths of confluences and exchanges
- Harsh work and austere lifestyles
- Sub-tropical and temperate seasonal changes, seed-based agriculture resulting in cyclical feasting
- Caste structured cross cutting ethnic tribes and clans, sometimes under kingdoms and empires
- Contemporary external intrusions and colonization question paradigms of life and death: confusion, des-orientation

## ANDES

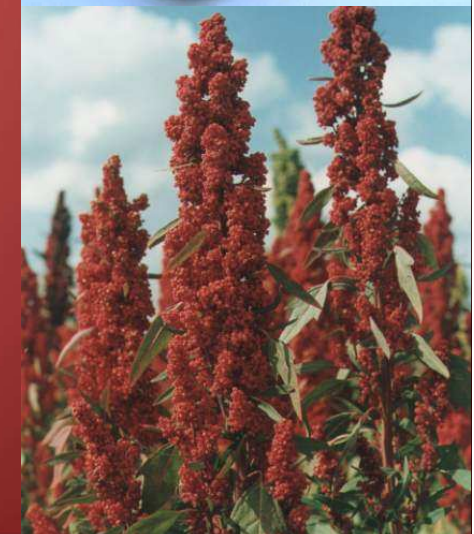


- Survival of pristine Precolumbian animistic cultures deeply rooted in the spirit of the mountains
- Permanent highland passages: paths of encounters and exchanges
- Austere lifestyles blessed by seasonal orgiastic feasting
- Cult of procreation, life, death and after death. Vegetative reproduction of crops.
- Culture strongly intertwined with nature: agro-pastoral lifestyles along with fishermen, forest dwellers, craftsmen and rich kingdoms and empires
- Brutal abortion and disruption with Spanish conquest, contemporary confusion, lack of direction, uneasiness about where to go



# Biodiversity Exchange Initiatives Between Andes & Himalayas: Crops

- The immense crop genetic resources of the tropical Andes constitute a world heritage, however knowledge about their use and management belongs to only few traditional farming peasants. The traditional **Andean environmental know-how** has an inherent value for global mountain regions.
- Few varieties of the Andean potato and peppers became an important crop in the Himalayas towards the XVIII century, though its use by peasants is insignificant when compared to the Andes. Other Andean mountain crops have made inroads in the Himalayas in recent years (*oca*, *Oxalis tuberosa*, and Quinoa, *Chenopodium quinoa*).
- Seed crops from the lowlands of Europe of Asian origin were introduced in the Central Andes in the XVI century, with poor performance. Their equivalent from the Himalayan may outperform those.
- In 1992 the HI did initial trials of these seed crops in the Peruvian Andes with significant success.

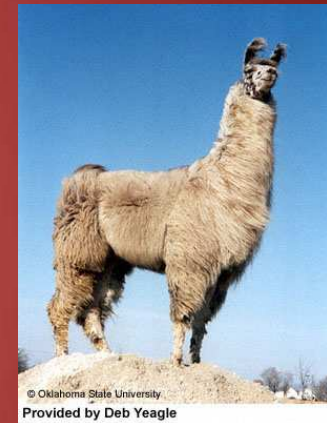




# Biodiversity Exchange Initiatives Between Andes & Himalayas: Cattle

## Mountain Livestock

- At request of ICIMOD in Nepal in 1993 A. Camino (HimalAndes Initiative) and J. Sumar (UNMSM) conducted a feasibility study on the potential of Andean Camelids (Llama and Alpaca) introduction to the Himalayas. The benefit of llama as versatile pack animal is identified as an option for the Himalayas. Its wool is identified for its potential for the carpet industries in the Himalayas. A first trial of Tibetan carpet weaving with Llama wool was successfully conducted in 2002.
- A HimalAndes research paper points out the potential benefits of replacing Andean cattle (cows and bulls) of European origin with less than half a century of adaptation to high altitude for the Himalayan yak, a multi-purpose cattle with over 5,000 years adaptation to high elevations. This mountain-adapted variety may improve the livelihood of highland peasant that became dependant of poor-performance cattle of European origin





# Community-Based Sustainable Tourism Initiatives

- 1993: **HimalAndes Initiative** promoted an inter-regional research on community based sustainable tourism experiences comparing two cases: Annapurna Conservation Area (Nepal) with Sajama National Park (Bolivia), and Huascarán National Park and Biosphere Reserve (Peru).
- 1994: **The Mountain Institute (TMI)** sponsored simultaneously a community tourism based project in Sikkim (India Himalayan) and a training course for Huascarán National Park in Peru.
- 1998: the Mountain Forum and TMI sponsored an e-conference instrumental in developing tourism codes of conduct for mountain regions in the Indian Himalayan and the Peruvian Andes.
- 2003-2006: Based on the results of the above e-conference, the Peruvian **Ancash Association** and TMI designed and implemented sustainable community based tourism strategies for specific areas of Huascarán National Park.



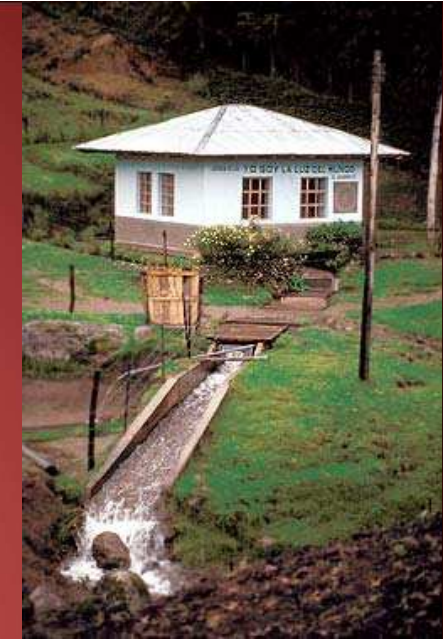




# Renewable Energy

Huge challenge for Himal-Andes is to provide access to clean, renewable, efficient and low-cost energy for mountain communities.

- **Traditional Practices:** Use of coal and firewood for cooking is restricted due to forest conservation in mountain areas. Where trees are not available, dry manure is used, This practice affects in a negative way the agricultural productivity.



- **Micro-hydro power:** Mountain villages implemented clean and sustainable systems, through micro-hydro powered generators. In both regions, the experiences have driven to relevant technological developments with original contributions in design and building. However, these knowledge acquired and developed locally has not been shared between populations from both regions. There is a big potential for exchange of experiences and development of commercial linkages between them.

- **Innovative renewable energy sources:** Geo-thermal, solar, and eolic options are alternatives of big potential for mountain regions. Experiences of energy generation from organic matter are excellent models to follow. Exchange of experiences between both regions could be very valuable - **E-Conference on micro-hidropower and solar technology (MF-APMN, 1991)**



# Land-slides & Risk Management

- Comparative Andes-Himalayan watershed research has been conducted since 2001 under different sponsors: IDRC, SDC, ICIMOD, CIP/CONDESAN, IRE-UBC,
- Local universities and national government agencies of Nepal, China, Bhutan, Peru, Ecuador and Bolivia
- These experience shows the relevance of comparative remote-sensing information for both regions for land-slides and other risk-management needs.
- Experiences on environmental and geological risk-management for mountain road construction, hidro-power plant, oil & mining infrastructure and exploitation has been developed in both regions without potentially valuable sharing experiences.
- Comparative experiences in remote sensing technologies between both regions could contribute to better understanding of the hydrological dynamics





# High-Altitude Human & Animal Physiology

Comparative biomedical research on high altitude environmental stress in human physiology based on studies on research conducted on both regions could result in important findings contributing to deal with health situations and human adaptation in both mountain ecosystems.

- **Perú** High-altitude human physiology research started focusing on high-altitude stress since 1889 (French expedition to Cerro de Pasco >5,000 msnm), followed by other expeditions: 1921 (**J.Barcott**), 1925 (**C.Monge & A.Hurtado**). Research evolved from hypoxia research to other syndromes related to growth in high-altitude, nutrition and aging. New trends focus in the study of native populations and their adaptation processes to high altitude and harsh environmental conditions. (**F.Leon**)
- **China and India** conducted research in the Himalayan region since 1965. In 1975, **Dr. Wu** worked out a series of measures for the treatment of acute altitude sickness, which proved useful for health care on the Tibetan railway construction 26 years later. The Qinghai-Tibet Plateau is the best natural laboratory for people to research solutions to hypoxic situations.
- **Nepal**: EV-K2-CNR Pyramid lab at 5500 msnm, Everest Base since 1990. 520 research missions were conducted by 220 researchers
- **Cooperation and information exchange on biomedical research in both regions could contribute in the alleviation of health conditions at high-altitude, including children malnutrition, and sickness prevention**





# Information Exchange Initiatives

**E-conferences** - Participation of mountain stakeholders from all regions. Most significant Mountain Forum global e-conferences in the past decade:

- 1998: Community-Based Mountain Tourism.** Instrumental in developing tourism codes of conduct in India and Peru (MFS-TMI)
- 1999 Mountain Forests and Communities (MFS-TMI)**
- 2000 Challenges of Agro-industry in the Andes. (InfoAndina)**
- 2001 Technological Interventions in Mountains, and Integrating Mountain Culture in Natural Resources Management (MFS-TMI)**
- 2002 Global e-conference on Mountain Women in preparation for the “Celebrating Mountain Women” global meeting in the frame of IYM2002 (MFS-ICIMOD)**
- 2006: Mountain to Mountain Cooperation – E-Conference on Sustainable use of Biodiversity in the Himal-Andes (MFS-MP June 2006)**
- 2008: Mountain GIS E-Conference (MFS-ICIMOD, Jan 2008)**

## Face to Face workshops

**HimalAndes Initiative:** 1999 HimalAndes International Workshop. Promoting Cooperation to Preserve Biodiversity and Sustainable Rural Development in Mountain Ecosystems: The case of the Andes and the Himalayas (Kathmandu, Nepal). Sponsored by Ashoka, Innovators for the Public and ICIMOD





## E-Conference: “Mountain to Mountain Cooperation: Sustainable use of Biodiversity in the Himal-Andes”

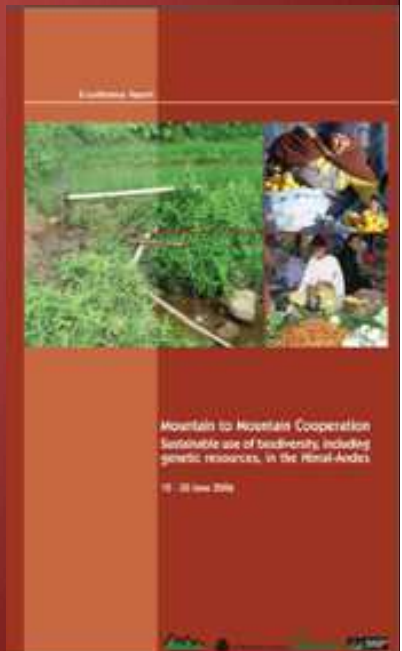
**Organizers:** HI & Mountain Forum –, with sponsorship of the Mountain Partnership (FAO)

**Participants:** 150 from over 12 countries , June 2006

- Part 1: Conservation of genetic resources & indigenous farming systems for sustainable development in the Andes and Himalayas
- Part 2: Legal & normative framework for use of biodiversity and genetic resources and Access and Benefit Sharing policies in the Himal-Andes

### **Challenges for information and knowledge exchange:**

- Knowledge hubs for both regions exist in various institutions, need for development standardised knowledge systems to facilitate integration
- Challenging subjects that policy makers, scientists, community members & private sector have interest.
- We have a responsibility as people trying to help mountain people safeguard their natural heritage while continue sharing their knowledge and improvements that allow lives of dignity.
- Future roadmaps will require continued exchange of ideas and information – the more we can work together, the more we can find innovative solutions





# Challenges & Next Steps

- The challenge facing HimalAndes cooperation is facilitation of knowledge exchange and strengthening information flow to foster conservation & sustainable development in both regions
- Coalitions and partnerships are required to bring experts together, for joint research, leading to policy making.
- Series of consultative fora and face-to-face meetings on specific areas of Andes-Himalayan cooperation should be organized and sponsored as result of the previous conferences

*“From their ancient knowledge, the mountains and their deities will find the right track for the rivers that feed their people” .....A. Camino*