



Proposal to Host the Mountain Forum Secretariat

1. Name of the Organisation: International Potato Center

2. Location of the Organisation:

Country	Peru
Mountain Range	the Andes
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3. Year of Establishment: 1971

4. Please describe the mission/goals of the organization:

The International Potato Center (CIP) is a scientific, nonprofit institution. Through agricultural research, the use of genetic resources and development and dissemination of improved agricultural technologies, it seeks to promote the increased and more sustainable use of potato, sweetpotato, and other Andean root and tuber crops (ARTC) in the developing world. The Center also works for the improved management of agricultural resources in the Andes and other mountain areas and the greater well-being of resource-poor farmers.

¹ Propuesta presentada por el Centro Internacional de la Papa, a nombre de CONDESAN, postulando como institución huésped del Secretariado del Foro de Montañas

CIP, as member of the CGIAR, shares its overarching objectives: increasing productivity—particularly for the world’s poorest people—protecting the environment, preserving biodiversity, improving policies, and strengthening national agricultural research capabilities.

5. Please describe the principal type(s) of work of the organization:

- a. ___ activism
- b. x education
- c. x research
- d. x conservation
- e. x development
- f. ___ policy development
- g. x project implementation
- other (please describe)

6. Please describe the principal area of work of the organisation:

The Center’s research agenda includes work in crop improvement and genetic resource management; crop protection; production systems and natural resource management; and social sciences. Research is conducted under 17 projects:

- Project 1 Integrated Control of Potato Late Blight
- Project 2 Integrated Control of Potato Bacterial Wilt
- Project 3 Control of Potato Viruses
- Project 4 Integrated Management of Potato Pests
- Project 5 Propagation of Clonal Potato Planting Material
- Project 6 Sexual Potato Propagation (TPS)
- Project 7 Global Sector Commodity Analysis and Impact Assessment for Potato and Sweetpotato
- Project 8 Control of Sweetpotato Viruses
- Project 9 Integrated Management of Sweetpotato Pests
- Project 10 Postharvest Utilization of Sweetpotato
- Project 11 Breeding for High Dry Matter in Sweetpotato
- Project 12 Global Strategic Initiative on Urban and Peri-Urban Agriculture
- Project 13 Potato Production in Rice-Wheat Systems
- Project 14 Sustainable Land Use in The Andes
- Project 15 Conservation and Characterization of Potato Genetic Resources
- Project 16 Conservation and Characterization of Sweetpotato Genetic Resources
- Project 17 Conservation and Characterization of Andean Root and Tuber Crops

Training and information dissemination are important parts of the Center’s program, and are driven by research priorities.

CIP’s contribution to **mountain areas** is widely distributed throughout this project portfolio, as a large percent of the beneficiaries of its research are concentrated in rural highland areas, where potato and other roots and tubers play a crucial role.

Furthermore, since the early 1990s the Center has gradually increased the importance it allocates to natural resource management in the Andean highlands. CIP's mountain-related activities can be summarized as follows:

- **Production and Utilization: Improving Potato and Sweetpotato's Role in the Tropical Highlands**

A series of CIP projects are working to help poor farmers in the tropics boost the contribution potato and sweetpotato make to their production systems via improvements in seed supply, varieties, pest and disease management, postharvest technologies and design and analysis of production systems.

- **Natural Resources Management: Promoting Sustainable Land Use in the Andes**

CIP is working to characterize the Andes (using GIS, remote sensing), design improved production systems (e.g. quinoa, dairy, nutrient management) and develop enabling policy for improved natural resource management (such as forestry and pesticide legislation, eligibility rules for rural loans).

- **Genetic Resources: Conservation and Characterization of Potato, Sweetpotato, and Andean Root and Tuber Crops (ARTC)**

CIP maintains the largest ex situ genebank of potato and sweetpotato genetic resources in the world, as well as a unique collection of nine lesser known Andean root and tuber crops. Characterization of the accessions in these collections is key to optimizing their use in providing improved materials to the Center's clients. In situ conservation with communities promotes maintenance of genetic resources of potato and other ARTC—and of indigenous knowledge about their cultivation, properties, and utilization.

- **Coordination and Cooperation: Global and Eco-Regional Research**

The Center collaborates closely with countries in the developing world and with scientists at advanced institutions through formal and informal networking arrangements designed to maximize the scope and benefits of its research in target ecologies. Collaborative arrangements with other CGIAR Centers help to optimize efforts through cross-cutting research programs in areas such as livestock management, gender, participatory research, genetic resources and integrated pest management. CIP is the convenor of the Consortium for the Sustainable Development of the Andean Ecoregion and the CGIAR Global Mountain Program.

7. Please describe primary beneficiaries/clients of the organization:

CIP's clients have changed over the years. While in the 1970's and 1980's CIP technology was primarily directed to National Research Institutes and Universities, for the past decade, CIP has been building stronger ties to the NGO community (e.g. CARE International, The Mountain Institute) and the international environmental community (FAO, UNEP). These new partnerships have proven powerful for maximizing the Center's contributing to the ultimate beneficiaries—small-scale farmers, households and communities.

The impact of CIP research is enhanced by posting its scientists in five regional and nine liaison offices throughout the developing world. Working side by side with developing country research partners helps to ensure that new technologies are user driven and quickly adopted and decrease the time lag for impact to be seen, felt, and measured. It also allows priority setting to be a dynamic and participatory process, reflecting local needs and constraints.

In keeping with the Center's mission, priorities are heavily weighted to those regions of the developing world with large numbers of poor people. CIP research targets low-income—especially women—farmers, as well as urban consumers with limited funds for purchasing enough nutrient-rich foods. It favors labor-intensive technology that encourages rural employment and emphasizes work in and for regions where agricultural productivity is threatened by environmental degradation.

8. Would you consider the bulk of your work to be:

- a. global
- b. regional
- c. national
- d. local
- e. other (please describe)

CIP's projects are global in nature. They transect the Center's work worldwide according to specific ecoregional needs and priorities. They also serve as CIP's primary link with other agricultural research and development entities such as national agricultural institutes, NGOs, universities in developed and developing countries, and international agricultural research institutions. The global research program covers five regions and more than 25 countries.

CIP works in close association with national research systems to select priority activities within major program areas. The Center sponsors and participates in several regional networks for commodity, participatory and ecoregional research. Roughly 60 percent of CIP's research is dedicated to the Andean ecoregion, while the remaining 40 percent covers selected ecologies in Africa and Asia. Regional work is coordinated through CIP's five Regional Offices—one in Africa, two in Asia, one in Latin America and another in Eastern Europe—and nine Liaison Offices worldwide.

9. Please indicate number of staff in full time employment of the organization:

- a. 158 Professional
- b. 245 Support Staff

10. Please indicate the organization's annual budget in US Dollars in 1999:

\$22 million USD/year

11. Please provide examples of mountain-related activities carried out by the organization:

Within the broad framework described in point 6, some examples of the Center's mountain-related activities include:

- **The Global Mountain Program (GMP)**

CIP convenes the CGIAR Global Mountain Program, created in 1997 to provide a system-wide focal point for research on mountain environments in support of Chapter 13 of UNCED's Agenda 21. Its goals are to contribute to the well-being of mountain people through poverty alleviation, to improve the management of natural resources, and to increase agricultural productivity and potential. The program draws on the collective capacity available in and outside of the CGIAR to address these needs in a concerted fashion.

- **The Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN)**

At six benchmark sites, CONDESAN conducts work on biodiversity, soil and water resources, food systems, and policies. The consortium brings together over 50 institutions from the Andean region—including public, academic, private, and nongovernmental organizations—as well as international research centers and institutions from industrialized countries. The goal s to facilitate initiatives in research, training, development and policy that will foster sustainable land use systems, socio-economic progress, and equity and welfare among the people of the Andean ecoregion.

- **InfoAndina**

InfoAndina, the information arm of CONDESAN, is the oldest information service in support of sustainable mountain development. Established in 1993 to facilitate information exchange among partners in the Andean region, its services include setup of moderated electronic discussion lists, training of partners in the use of information resources, Web-page hosting, edition of electronic newsletters, and organization of e-Conferences moderated by specialists on key issues in sustainable development and policy. In 1996, InfoAndina agreed to act as the Latin American node of the Mountain Forum. Currently, InfoAndina has over 800 subscribers, 70 percent from the Andean region.

- **Late Blight and Farmer Field Schools**

CIP's largest research project is devoted to the integrated control of late blight, the world's most devastating crop disease and the greatest single constraint to potato production. The Center's strategy for late blight stresses the development and deployment of durably resistant potato varieties and the improvement of farmers' ability to make sound management decisions. An overarching goal of all the Center's crop protection work is to reduce the need for chemical controls, which are not only too expensive for many resource-poor farmers, but also pose serious health and environmental threats. With IFAD funding and Care International collaboration, CIP is developing Farmer Field Schools for integrated late-bight

control in the potato zones of Africa, Asia and Latin America. The potential impact area of CIP's late blight research is nearly 3 million hectares in 40 developing countries, with an estimated annual benefit per hectare of US\$530.

- **IPM in the Andes and other Mountain Regions**

CIP has developed integrated programs for the management of key potato insect pests, emphasizing sustainable, ecologically-based and economically sound practices that lead to reduced use of chemical pesticides. Components include resistant crop varieties, improved cultural practices, biological controls, insect traps, and rational pesticide use. Increased yield and quality of potato harvests have resulted in higher incomes and reduced pesticide applications. Benefits in affected areas average \$243/ha. The reduction in toxic residues is also important to the health of farmers and their families.

- **Seeds of Hope for Central America**

In collaboration with CIMMYT, CIAT and IPGRI, CIP launched an international effort to restore Honduran and Nicaraguan food-production capabilities in the aftermath of Hurricane Mitch. In these largely agriculture-based countries, critical seed stocks were lost in the hurricane. The Centers are helping to replenish these stocks, while teaching environmentally appropriate farming techniques that hold promise both for feeding the two countries over the long term and for reducing their vulnerability to natural disasters in the future.

Seeds of Hope for Central America builds on lessons learned from the successful Seeds of Hope program conducted in Rwanda in 1995 following the civil war that shattered crop production in that country. Rwanda's Seeds of Hope program, which involved the current effort's four research centers along with four others, successfully delivered modern seed technology to farmers, helped to restore domestic food security and reintroduced crop diversity with unprecedented success.

- **Improving Potato and Sweetpotato Systems in East Africa**

In Eastern and Central Africa, potato and sweetpotato are produced almost exclusively in highland and closely associated mid-elevation areas. These are the most densely populated, intensively cultivated areas of the region, where soil fertility is declining and erosion is an increasingly serious problem. The future of food security for the sub-region will depend on the development of better varieties and crop management technologies within the context of sustainable soil and water management. CIP is collaborating with several regional programs of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). CIP is also a founding member of the PRAPACE network, which brings together national research programs on potato and sweetpotato to address common issues systematically, and is one of the partners in the African Highlands Ecoregional Program (AHI).

Integrated Seed Systems • Potato research in the mountainous district of Kabale, Uganda, for example, has shown that better management of bacterial wilt can be achieved with clean seed and improved rotations managed on the

community level. Yields have been increased by as much as 50 percent and improved soil fertility is expected to bring multiple, longer term benefits. This work has been carried out in collaboration with the Ugandan national research institute (NARO), a number of community-based groups and the NGOs CARE and Africare. The lessons are being incorporated into Farmer Field Schools in a separate IFAD-funded project, in which groups of farmers work together to find the best local solutions to a range of problems including late blight, bacterial wilt, seed supplies, and soil fertility. Potatoes tend to be produced in isolated areas within the highlands. Collaborative research is being conducted to develop decentralized, farmer-based seed systems as reliable sources of quality seed, which is chronically hard for farmers to obtain.

Sweetpotato Improvement • Sweetpotato is an important food security crop in many of the same mountain areas. The crop covers quickly, providing land cover on steep, erosion-prone slopes and suppressing weeds. The development of new products and uses is opening up novel markets and opportunities. Where market opportunities are identified, farmers demand new varieties with higher and earlier yields, and are willing to invest in better pest and crop management. Most of the varieties grown in the region have white or cream flesh: the promotion of orange-fleshed varieties is a promising strategy to increase the consumption of Vitamin A, a micronutrient that is critically and chronically deficient in the diets of many rural people.

- **Potato Production in Indonesia**

Asia has seen tremendous increases in potato production over the past decades, and Indonesia is among the countries showing the highest growth rates. Potato in Indonesia is typically grown in the uplands under humid tropical conditions. Production increases have had negative environmental impact because of heavy use of fertilizers and pesticides and indiscriminate forest clearing by potato farmers seeking virgin, disease-free and nutrient-rich soils. CIP has conducted participatory needs and opportunity assessment to help in establishing effective IPM approaches for potato growers.

- **Household Gardens in Asia**

Careful analysis of local food production systems led the CIP-initiated UPWARD consortium to focus on household gardens, rather than field crops, in the mountains of Mindanao, the Philippines. Based on a better understanding of women's roles in these gardens and in managing plant diversity, the team was able to significantly increase the quality of the rural diet.

- **Sweetpotato Germplasm Collection, Characterization and Use**

In collaboration with the Cenderawasih University and the Sejati Foundation in Irian Jaya (Indonesia), CIP scientists participated in a seven-year project to collect sweetpotato germplasm and learn about its use from local growers. This information is now being used in work to improve human nutrition.

12. Please describe the organization's information technology capacity, including connectivity to the internet:

CIP headquarters in Lima has a network of about 300 Windows PCs and 12 NT Servers, connected via a fast Ethernet network backbone. An Intranet (with global Extranet access for CIP's Regional office staff) acts as a portal for SQL databases, the library, and a corporate information repository. As part of the CGIAR corporate voice/data network, CIP has a 64K dedicated connecting to an Internet gateway in Palo Alto, where the CIP public Webs (including CONDESAN) are housed. All systems run standard configurations of MS Desktop (Office Professional), Server (Back Office) and Systems Development (Visual Studio) software. CIP also has some specialized facilities including a GIS laboratory, principally using Arc Info.

13. Please describe the organization's current working partners (give name, location and area of collaboration with partners):

CIP has over 175 partner institutions around the world. A complete list of the Center's research partnerships active in 1998 can be found in the Annual Review. Below is a sampling of those working on mountain activities:

National Universities:

- **Center for Applied Tropical Ecology** (Univ. de Los Andes) - Merida, Venezuela
Developing a *paramos* and potato production project
- **Cenderawasih University** (Irian Jaya)
Collaborating on a sweetpotato germplasm program
- The **University of Nairobi** in Kenya and **Makerere University** in Uganda
Working on crop management for late blight and bacterial wilt in the highlands

National Research Institutes:

- **INIAP, the Ecuadorian Research Service**
Working closely with CIP scientists in the areas of soil and water management and integrated pest management
- **ASARECA**
Working with CIP on integrated management of potato diseases in the region
- **Pakistan Agricultural Research Council**
Working on potato variety selection, improved potato seed systems and soil fertility management with CIP regional agronomists

Advanced Research Organizations:

- **Montana State University, Cornell and Wageningen University**
Collaborating with CIP in estimating the trade-offs between increased potato production and environmental impacts (human health, water quality, soil erosion)
- The **Siebersdorf Laboratory** in, Vienna, Austria
Collaborating on the characterization of sweetpotato land-races in the high and mid-elevation areas of East Africa
- The **Institute for Research for Development for Development** (former ORSTOM)
Collaborating with Venezuelan, Bolivian and CIP scientists on improving soil-organic-matter management in potato-based systems

- The Belgian **University of Gembloux**
Working with Bolivian and CIP scientists in Cochabamba on the nutritional value of various Andean roots and tubers

NGOs:

- **CEDEPAS** (Centro Ecueménico de Promoción y Acción Social), **ASPARDERUC** (Asociación para el Desarrollo Rural de Cajamarca) and **CIRNMA** (Centro de Investigación de Recursos Naturales y Medio Ambiente)
Cooperating with CIP scientists in Peru to develop low-cost watershed analysis methodology that will help local authorities to set priorities and seek funding
- **CARE International**
Working closely with CIP scientists promoting Farmer Field Schools
- **AFRICARE, World Vision** and **Sasakawa Global 2000**
Collaborating with CIP in East Africa on improved potato production systems for bacterial wilt control

International Centers:

- **International Livestock Research Institute (ILRI)**
Working with CIP scientists to improve dairy production on the Altiplano of Peru and Bolivia
- **International Fertilizer Development Center (IFDC)**
Collaborating with CIP to improve crop modeling and nutrient cycling in mountain environments
- **International Centre for Research in Agroforestry (ICRAF)**
Leads the African Highlands Ecoregional Program (AHI), an inter-center ecoregional program and a regional network of ASARECA, of which CIP is a partner, and has been closely involved in initiatives on integrated management of pests and diseases, declining soil fertility, and region-wide diagnosis, monitoring, and evaluation

UN Organizations:

- **International Fund for Agricultural Development (IFAD)** and **Food and Agriculture Organization (FAO)**—together with NARO-Uganda, Africare-Uganda, EARO-Ethiopia, and Self-Help International (Ethiopia)
Collaborates in participatory program of Farmer Field Schools for late blight and other constraints on potato production in the highlands of Uganda and Ethiopia

Networks:

- The **PRAPACE** network for the improvement of potato and sweetpotato in eastern and central Africa

Examples of **donors working with CIP's mountain agenda** include:

A. Competitive Grants and Foundations:

- The **Soil Science Cooperative Research Support Program (USAID)** and **Dutch Ecoregional Fund (DGIS)** support a project in production/environmental impact "trade-offs".

- The **Dutch Eco-regional Fund** and **National Oceanographic and Atmospheric Sciences Agency** (NOAA) support remote sensing work in the Altiplano.
- The **Ford Foundation** is supporting the socialization of information in three Peruvian watersheds.
- The **British Natural Resources Institute** (NRI) awarded a grant to the Uganda sweetpotato production to work on IPM.

B. International Funding Organizations

- The **International Fund for Agricultural Development** (IFAD) supports Farmer Field Schools for potato late blight management in Africa, Asia and Latin America.
- **European Union** funds work on managing soil carbon stocks at high elevations and the CIP-led Global Mountain Program.
- The **Interamerican Development Bank** supports case studies on the relationship between poverty and environmental degradation.
- **UNEP-GEF** provides funding to study in situ agro-biodiversity management in the Andes.

C. Bilateral Funding Programs

- The **Swiss Development Corporation** (SDC) assists in the development of InfoAndina, the Andean Root and Tuber Program, the Global Mountain Program, and potato research in Pakistan, Nepal and Bhutan.
- The **International Development Research Center** (IDRC-Canada) supports CONDESAN Coordination, an arracacha development project (\$80,000), a human health and potato pesticides project, and policy interventions in the High Andes.
- The **Danish Government** supports a quinoa production project.

D. National Funding

- The **Ecuadorian Research Service** provides counterpart funding for the Eco-Suelos project (for 3 years).
- The **Universidad de los Andes** in Merida, Venezuela is initiating a project on potato and *paramo* management with CIP; their contribution will be over a three-year period.

14. What process would the organization and its Board have to follow to host the Mountain Forum Secretariat and how long is this expected to take?

The Director's Committee of CIP has already approved the proposal to bring the Mountain Forum Secretariat to Lima. The CIP Board of Directors meets annually in March and if the bid is accepted, would pass a resolution at that time officially inviting the Secretariat to Lima.

15. As a host institution, what options are you aware of for incorporating the Mountain Forum Secretariat as an independent legal entity in your country and how long would this take?

In Peru there are two major options: as a commercial organization or as a non-profit organization. For the later, the Secretariat could be incorporated as a Foundation (this would require approval by the Ministry of Justice), as an Association (no approval necessary) or as an International Organization. It is estimated that it would take no more than 6 weeks to establish the Forum as a non-profit association in Peru. It would take several years to establish it as an International Organization.

16. What does your organization see as the benefits to itself in hosting the Mountain Forum Secretariat?

We feel that the location of the MF Secretariat in Lima will strengthen our on-going efforts with the mountain agenda. The presence of the Secretariat will add prestige to our organization and improve our efficacy in promoting sustainable development in the mountains. The Secretariat will help CIP teams to stay abreast of policy and technical advances made globally and will provide greater impetus to our own research. We expect this strengthening of CIP to be reflected in better joint proposals and funding.

17. What resources (human, financial, material) can your organization bring to bear on the work of the Mountain Forum generally and the Mountain Forum Secretariat in particular?

CIP is currently the home of InfoAndina, the Latin American node for the Mountain Forum, CIP also houses the coordination offices of CONDESAN and the Global Mountain Program. These three units will interact closely with the MF Secretariat. Other important services that CIP can offer the Secretariat stem from the Center's almost 30 years of operations as a Lima-based international center. They include: office space (a suite of two offices) in a modern, fully functional facility; access to financial services; computer support services; travel support services; help in acquiring visas; and other logistic support. Nevertheless, the most important service will be the intellectual camaraderie that the CIP team of nearly 160 scientists and technicians will be able to offer the Secretariat. CIP has a very friendly intellectual atmosphere which provides excellent opportunities for ongoing exchange of information and project development and evaluation.

18. What potential support you expect the government of your country might be willing to provide to the Mountain Forum Secretariat?

CIP is an international organization with activities in countries worldwide. We have a large number of country operating agreements and receive support from many of these countries. This could foreseeably facilitate the international work of the Secretariat.

In the case of our host country, it is unlikely that in the immediate future Peru will offer material support to the MF Secretariat. Nevertheless, we are already in contact with the

Government in developing plans for the year 2002 (Year of the Mountain). Our hope is that the Secretariat, if it comes to Lima, will benefit from this work and that it will serve to "open the door" to closer collaboration with the Ministries of Environment and Agriculture.

19. Please describe any other benefits (or constraints) that your organization might bring to bear on the work of the Mountain Forum Secretariat. These might include policies, administrative and management systems, logistical and other services:

Generally speaking, being placed at CIP will facilitate the Secretariat's operations. CIP has a flexible financial administration that maintains very good accounting records and works hard to help programs meet their goals, including reporting requirements. In addition, CIP has publications capacity, meeting rooms and dormitory rooms that can all help facilitate Secretariat functions, at reduced costs. The location at CIP also provides a strong developmental image and capacity to the Secretariat, including access to the CGIAR centers, their research capability and policy work.