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DONOR CONTRIBUTIONS

The International Potato Center is grateful for the generous support of all our donors, particularly those who contribute with unrestricted contributions. The funding we receive enables us to carry out high quality research and training designed to contribute to reducing poverty and achieving food security on a sustained basis in the poorest countries of the world. CIP's revenues in 2001 were lower than they were in 2000, reflecting a general trend of decreasing funding to

agricultural research. We are actively seeking new partners and additional sources of funding to maintain operations at a sustainable and stable level. This will enable us to make a solid contribution in the years to come to our goals: food security, healthy environments and less poverty through research, training, information and technical assistance on potato, sweetpotato, Andean root and tuber crops, natural resources and mountain ecologies.

| Donor (ranked by level of contribution) | US\$000 | | |
|---|--------------------|---|-----------------|
| Swiss Agency for Development and Cooperation (SDC) | 2,868 ^a | Government of the Republic of Korea | 80 |
| United States Agency for International Development (USAID) | 2,142 ^b | Government of France | 68 |
| International Bank for Reconstruction and Development (IBRD/World Bank Group) | 1,964 | Government of Belgium | 66 |
| Government of Japan | 1,428 | National Oceanic and Atmospheric Administration (NOAA)/University of Missouri | 52 |
| European Commission (EC) | 1,142 ^c | Government of South Africa | 50 |
| Department for International Development (DFID), UK | 943 | International Fertilizer Development Center (IFDC) | 48 ^e |
| Danish International Development Agency (DANIDA) | 818 ^d | Government of the Islamic Republic of Iran | 40 |
| Government of Netherlands | 802 | Rockefeller Foundation | 40 |
| Government of Germany | 746 | Organization of Petroleum Exporting Countries (OPEC) Fund for International Development | 38 |
| Swedish International Development Cooperation Agency (SIDA) | 648 | Government of India | 37 |
| Government of Luxembourg | 611 | United States Department of Agriculture (USDA) | 34 |
| Canadian International Development Agency (CIDA) | 598 | Food and Agriculture Organization of the United Nations (FAO) | 30 |
| Government of Austria | 515 | Government of Brazil | 25 |
| Government of Peru | 500 | Proyecto Nacional de Manejo de Cuencas Hidrográficas y Conservación de Suelos (PRONAMACHS/Asociación Benefica PRISMA), Peru | 21 |
| Australian Centre for International Agricultural Research (ACIAR) | 343 | Technova - Toyota | 13 |
| International Livestock Research Institute (ILRI) | 333 | International Plant Genetic Resources Institute (IPGRI) | 12 |
| Government of Spain | 300 | Consultative Group on International Agricultural Research (CGIAR) Participatory Research and Gender Analysis Project | 11 |
| International Fund for Agricultural Development (IFAD) | 285 | Wallace Genetic Foundation Inc | 10 |
| International Development Research Centre (IDRC) | 246 | Servicio Nacional de Sanidad Agraria (SENASA), Peru | 8 |
| Government of Italy | 180 | Government of Mexico | 5 |
| The McKnight Foundation | 170 | Government of Thailand | 5 |
| Government of Norway | 165 | Fondo Regional de Tecnología Agropecuaria (FONTAGRO/Red Internacional de Metodología de Investigación de Sistemas de Producción RIMISP) | 4 |
| Government of China | 140 | Government of Philippines | 3 |
| Ford Foundation | 105 | | |
| | | TOTAL | 18,692 |

a Includes US\$120,000 for an associate expert

b Includes US\$88,000 for university partners in the USA

c Comprises US\$802,000 for work on sustainable land use in the Andes and US\$340,000 for work on conservation of Andean root and tuber crop diversity

d Includes US\$89,000 for an associate expert

e Includes US\$47,000 for an associate expert

FINANCIAL REPORT

CIP's total revenues in 2001 were US\$19.0 million (18 percent less than the 2000 revenues of US\$23.3 million). This revenue comprises US\$9.0 million of unrestricted donations and US\$10 million of restricted donations. At the end of 2001, US\$3.3 million (17 percent of total revenues) had not been received. The allocation of CIP's funds to its research activities is shown below.

Allocation of funds to CIP activities, 2001 and 2000

| CIP activities | 2001 | | 2000 | |
|---|---------------|------------|---------------|------------|
| | US\$ millions | % | US\$ millions | % |
| Potato | 8.8 | 46 | 10.8 | 46 |
| Sweetpotato | 5.8 | 31 | 7.2 | 31 |
| Andean roots and tubers | 2.2 | 12 | 0.9 | 4 |
| Natural resource management (including CONDESAN) | 1.6 | 8 | 1.3 | 5 |
| Global Mountain Program (GMP) | 0.2 | 1 | 0.2 | 1 |
| Global Initiative on Late Blight (GILB) | 0.2 | 1 | 0.1 | 1 |
| Urban and peri-urban agriculture (SIUPA) | 0.2 | 1 | 0.2 | 1 |
| Financial operating reserve | 0 | 0 | 2.6 | 11 |
| | 19.0 | 100 | 23.3 | 100 |

The main reasons for the lower revenues in 2001 were a sharp fall in unrestricted donations and exchange rate losses. CIP's donations are received in US dollars (41 percent), euros (23 percent) and various other currencies (36 percent), making revenues sensitive to exchange rate volatility in international financial markets. During 2001 there was a rise in the value of the US dollar against other international currencies, especially the Japanese yen and the euro, and a consequent fall in these currencies in US dollar terms.

In response to the drop in income, CIP restructured its budget, monitored expenses closely and made a major effort to obtain new donations. Despite these actions, the budget deficit reached US\$1 million, and as a result the financial operating reserve was reduced from US\$3.1 million to US\$2.1 million. At the end of 2001 the cash position stood at US\$4.9 million.

Liquidity problems, largely due to delays in the receipt of contributions, have been a challenge during previous years.

Prudent liquidity policies, however, have made it possible to operate in an uncertain environment. CIP is currently exploring with multinational banks new options that will allow more flexibility in liquidity management.

The budget review and the prudent financial policies adopted during the year made it possible to reduce the percentage of indirect costs from 16 percent in 2000 to 14 percent in 2001. As a result of new austerity measures to be implemented during 2002, it is expected that indirect costs will continue to decline.

The statement below summarizes CIP's finances in 2001. A copy of the complete audited financial statement may be requested from the office of the Deputy Director General for Corporate Development at CIP headquarters in Lima, Peru.

Statement of financial position

Year ending 31 December 2001 (compared with 2000)

| | (US\$000) | |
|---|---------------|---------------|
| | 2001 | 2000 |
| Assets | | |
| Current assets | | |
| Cash and cash equivalent | 4,850 | 5,477 |
| Accounts receivable: | | |
| Donors | 4,052 | 3,572 |
| Employees | 368 | 268 |
| Others | 244 | 323 |
| Inventories | 667 | 571 |
| Advances | 324 | 399 |
| Prepaid expenses | 136 | 167 |
| Total current assets | 10,641 | 10,777 |
| Property and equipment, net | 3,274 | 3,355 |
| Total assets | 13,915 | 14,132 |
| Liabilities and net assets | | |
| Current liabilities | | |
| Accounts payable | | |
| Donors | 1,030 | 689 |
| Others | 5,402 | 4,483 |
| Accruals | 1,575 | 1,781 |
| Total current liabilities | 8,007 | 6,953 |
| Net assets | | |
| Appropriated | 3,846 | 4,109 |
| Unappropriated | 2,062 | 3,070 |
| Total net assets | 5,908 | 7,179 |
| Total liabilities and net assets | 13,915 | 14,132 |

THE RESEARCH PROGRAM

CIP's research program comprises 13 projects (restructured from 17) that address the most pressing constraints to improving livelihoods through potato and sweetpotato production and use, managing natural resources in mountain ecosystems and preserving and exploiting underutilized

Andean root and tuber crops. Within the 13 projects are three that formally recognize CIP's increasing success in convening and facilitating research among a large number of partners around global (potato late blight and urban agriculture) and regional (Andean ecoregional) themes.

CIP's research projects and project leaders

| Project | Leader |
|---|---|
| 1 Integrated management of late blight | J Landeo |
| 2 Uptake and utilization of improved potato production technologies | C Crissman |
| 3 True potato seed | E Chujoy |
| 4 Integrated pest management for root and tuber crops | A Lagnaoui |
| 5 Sweetpotato improvement and virus control | DP Zhang |
| 6 Post-harvest quality, nutrition and market impact of root and tuber crops | M Hermann |
| 7 Biodiversity and genetic resources of roots and tuber crops | W Roca |
| 8 Integrated natural resource management in mountain agro-ecosystems | R Quiroz |
| 9 Gene discovery, evaluation and mobilization for crop improvement | M Bonierbale |
| 10 Global commodity analysis and impact assessment of potato and sweetpotato technologies | T Walker |
| G1 SIUPA (Strategic Initiative on Urban and Peri-Urban Agriculture) | G Prain |
| G2 GILB (Global Initiative on Late Blight) | G Forbes |
| R1 CONDESAN (Consortium for the Sustainable Development of the Andean Ecoregion) | J Posner (until July 2001) /E Mujica |

PROJECT 1. INTEGRATED MANAGEMENT OF LATE BLIGHT

Late blight in potato, caused by the oomycete *Phytophthora infestans*, continues to be the most devastating potato disease worldwide and the cause of huge crop losses, particularly in less developed countries. CIP's highest research priority is to develop, adapt and integrate technologies for managing late blight of potato. CIP scientists have already produced (through classical breeding techniques) and deployed improved populations and advanced clones with durable resistance to this disease, for utilization by developing countries in particular. Combined efforts by projects 1 and 9 are being directed towards the development and use of state-of-the-art molecular tools for tapping newer sources of resistance. Components of integrated disease management (IDM) are being developed to complement host resistance in overall IDM strategies. The farmer field school (FFS) farmer participatory approach is being used to integrate components for disease control. Crop and disease models linked to geographic information systems (GIS) are being used to understand the complexities of the disease's epidemiology across diverse agro-ecologies and to develop simple decision-support systems (DSS) for disease management.

PROJECT 2. UPTAKE AND UTILIZATION OF IMPROVED POTATO PRODUCTION TECHNOLOGIES

The aim of this project is to develop and disseminate production technologies that can improve on-farm yields and hence the welfare of farm families. The project is centered thematically and philosophically on seed potatoes, either clonal or true potato seed (TPS), as a delivery mechanism for new technologies. Because seeds transmit pests and diseases,

improved production and management of seed potatoes, either in formal programs or in informal farmer systems, is a key factor in improving potato productivity. We focus on the introduction of new genetic materials and on overcoming the constraints caused by potato viruses and bacterial wilt.

PROJECT 3. TRUE POTATO SEED

True potato seed (TPS) enables a crop to be grown in areas where traditional production systems fail, for example where seed tubers are scarce or not available. By facilitating the transfer of improved TPS hybrids in such areas of the tropics and subtropics, CIP aims to expand potato cultivation and increase its efficiency (reduce production costs, increase yields). This project concentrates on breeding parents for hybrid TPS production and improving TPS hybrids for needed specific traits such as late-blight resistance, earliness and seed set. This research is back-stopped by the TPS utilization activities in CIP's Project 2 and by the work of local organizations (private sector, NGOs, NARS) in efforts to commercialize TPS systems and thus underpin developing small industries.

PROJECT 4. INTEGRATED PEST MANAGEMENT FOR ROOT AND TUBER CROPS

Root and tuber crops are among the world's most important food crops, with a great potential to improve food security, eradicate starvation and alleviate poverty in resource-poor countries. For many farmers, these crops are not only their food staple but also their principal source of cash income. Root and tuber crops are commonly grown in production systems where biotic factors such as weeds, nematodes, pests and diseases limit yields. In the developing world, insect pests

pose a serious constraint to potato and sweetpotato production and hence to the capacity of farmers to secure a livelihood; losses in the field and in storage can easily reach 50 percent of total yield. Besides the economic losses, current farmer control practices rely on the use of highly toxic pesticides applied with little or no protective equipment, causing substantial damage to the health of people and the environment. And the use of chemical pesticides is increasing rapidly, particularly where farmers are intensifying production methods in order to sell in urban markets, and where the crops are expanding into agro-ecological regions and planting seasons outside their traditional range. To achieve its goal of increasing farmer income and food security by reducing pest losses, while protecting the health of producers, consumers and the environment, this project adopts a systematic and comprehensive approach to crop protection. More specifically, this implies maintaining pest populations at acceptable levels using combinations of control techniques and practices, and with due consideration of the socio-economic and environmental consequences.

PROJECT 5. SWEETPOTATO IMPROVEMENT AND VIRUS CONTROL

This project aims at improving the productivity, nutritional quality and utilization of sweetpotato through the development and adoption of new varieties with enhanced post-harvesting characteristics and of technologies for controlling sweetpotato virus diseases. Current project activities include vitamin A biofortification through development and deployment of beta-carotene-rich sweetpotato in sub-Saharan Africa and southwest Asia, genetic improvement of dry matter and starch yields to facilitate diversified use of sweetpotato in China and Southeast Asia and application of technologies for producing healthy planting material in low-input farming systems.

PROJECT 6. POST-HARVEST QUALITY, NUTRITION AND MARKET IMPACT OF ROOT AND TUBER CROPS

This project has two main objectives. The first is to alleviate rural poverty by linking farmers with markets and thus assisting them in income generation through diversified and expanded post-harvest use of roots and tubers; in this context the identification of market opportunities, equitable rural enterprise development and product development are central concerns. Project activities aim at improving processing technologies and farmer access to markets; identifying novel root and tuber products; developing methodologies for successful product and small agro-enterprise development; and increasing awareness of specific health benefits from eating roots and tubers. The second objective is to prevent vitamin A deficiency by promoting the increased use of orange-flesh sweetpotatoes in regions where this nutritional disorder is rampant. Initially concentrating on East Africa, the project has established a partnership, called VITAA (Vitamin A for Africa), which engages the agriculture, health and nutrition communities in an effort to boost the demand for, and use of, orange-flesh sweetpotatoes by those most threatened by vitamin A deficiency.

PROJECT 7. BIODIVERSITY AND GENETIC RESOURCES OF ROOT AND TUBER CROPS

The overall objective of this project is to characterize and secure the long-term conservation of potato, sweetpotato and other Andean root and tuber crop genetic resources through global and regional collaborative research on the management of seed, field and in vitro genebanks. The project also explores technologies to improve cryopreservation methods for the long-term conservation of potato and sweetpotato clones. Project activities include research to improve pathogen elimination and health assurance procedures for worldwide distribution of healthy clones; linking collections with the conservation of biodiversity carried out by farmers (in situ/on farm conservation); rationalization of germplasm collections (coverage, redundancies, clonal identity, core collections); promoting access to, and use of, genebank holdings through the identification and evaluation of new sources of priority traits; and upgrading and improving the quality of databases containing information and documentation of root and tuber crop genetic resources, and linking these databases to georeferenced and genetic information.

PROJECT 8. INTEGRATED NATURAL RESOURCE MANAGEMENT IN MOUNTAIN AGRO-ECOSYSTEMS

Mountain ecosystems are found on every continent and sustain an estimated 10 percent of the world's population. In addition, billions of people living in the lowlands depend on these ecosystems for food and other resources (water, raw materials, energy). Mountain areas are also important sources of plant and animal diversity, both wild and domestic. In the past few decades, environmental changes and rapid increases in population densities in mountain areas have increased problems for planning effective resource management strategies. Despite the global recognition of the importance of these areas following the lead of the United Nations Conference on Environment and Development in 1992, many mountain communities continue to live in poverty. Through integrated natural resource management research, CIP and other Future Harvest centers are working to alleviate poverty, increase food security and protect the environment in mountain areas. The goal of this project is to contribute to more productive and sustainable natural resource management in selected mountain areas. The management practices, methodologies, policy recommendations and analytical tools being developed jointly with NARS, and complemented with appropriate training, will enhance the capability of local and national researchers and authorities to analyze their problems, search for windows of opportunity, and to assess, ex-ante, the tradeoffs of interventions.

PROJECT 9. GENE DISCOVERY, EVALUATION AND MOBILIZATION FOR CROP IMPROVEMENT

Strategic germplasm evaluation is conducted in collaboration with CIP's biodiversity conservation project (Project 7) to identify and characterize new sources of

resistance to late blight, bacterial wilt and viruses; such new resistance sources are needed to develop broad-based potato varieties less dependent on pesticides and other inputs. The project's applied breeding program develops resistance to major potato viruses (PLRV, PVY and PVX) to protect crops from the degenerative diseases that are important in tropical lowland regions where vector pressures are high and capacity for the production of healthy vegetative seed is limited. Molecular tools and information are used to identify and monitor resistance to potato late blight and viruses and to help improve productivity, post-harvest quality and nutritional and market value of sweetpotato and potato through better understanding and more efficient manipulation of carbohydrate gene networks. In addition, novel resistance mechanisms are engineered, and foreign genes are mobilized to confront priority diseases and pests for which conventional breeding does not offer ready solutions. High levels of multiple virus resistance are developed in advanced potato clones and parental lines that also possess the productivity and use characteristics that are needed for variety development in collaboration with national breeding programs.

PROJECT 10. GLOBAL COMMODITY ANALYSIS AND IMPACT ASSESSMENT FOR POTATO AND SWEETPOTATO TECHNOLOGIES

This project functions as a capstone in CIP's revised project portfolio. Information is generated for scientists, research administrators, policy-makers and donors for decision-making on technology design, resource allocation, policy formulation and investment options related to potato and sweetpotato improvement and utilization. Some of the specific objectives are to: quantify the agronomic, economic, social and environmental effects of improved potato and sweetpotato technologies; document the rate of return and the effect on poverty of CIP's research; assess the level and adequacy of investment in potato and sweetpotato crop improvement in developing countries; assemble and maintain price and production databases for priority setting; evaluate the effects of potato price instability on diverse groups in society; assist in improving domestic potato and sweetpotato marketing and international potato trade benefiting developing countries; and participate in generating the most informative commodity projections with specialized institutions.

PROJECT G1. SIUPA (STRATEGIC INITIATIVE ON URBAN AND PERI-URBAN AGRICULTURE)

The Strategic Initiative on Urban and Peri-urban Agriculture (SIUPA) was launched by the CGIAR in late 1999 in response to growing urban populations and urban poverty and the increased dependence of city dwellers on farming. CIP is the convening center for the initiative. SIUPA's goals are to contribute to increased food security, improved nutritional status and higher incomes for urban and peri-urban farmers

while mitigating negative environmental and health impacts; and to establish the perception of urban and peri-urban agriculture as a positive, productive and essential component of sustainable cities. SIUPA has established a set of research activities in regional sites collectively known as Urban Harvest. CIP is one of several Future Harvest centers implementing research activities with other international and national agencies in such fields as sustainable agroprocessing and livestock enterprises, quality aspects of vegetable production systems, and the contribution of urban agriculture to human nutrition.

PROJECT G2. GILB (GLOBAL INITIATIVE ON LATE BLIGHT)

The Global Initiative on Late Blight (GILB) was convened by CIP in 1996 in response to the escalating agricultural crisis brought about by the evolution of more aggressive and fungicide-resistant forms of the potato late blight pathogen, *Phytophthora infestans*. GILB stimulates collaborative and complementary research and technology transfer among developing and developed countries by improving communications among researchers and institutions. GILB has established regional and thematic linkage groups to encourage people to work together and to identify additional opportunities for collaboration. To assist these groups, GILB has sponsored meetings and developed World Wide Web pages for each group. To facilitate access to information, a Global Late Blight Information System, with numerous resources and links, has been established online at the GILB web address. A newsletter is distributed three times a year to GILB members in 79 countries. GILB sponsored an international conference in 1999 and is planning another for 2002. GILB is managed by a steering committee representing different regions of the world where late blight is important.

PROJECT R1. CONDESAN (CONSORTIUM FOR THE SUSTAINABLE DEVELOPMENT OF THE ANDEAN ECOREGION)

CONDESAN is an open and dynamic consortium of diverse organizations, each one contributing its knowledge and expertise on research and/or rural development, that works on the interlocking issues of sustainable natural resource management, increasing rural incomes and social equity. The objective is to strengthen local capacity to understand natural resource management and to develop environmentally sound production systems and policies that can enhance life in the Andes. Focusing mainly on poor farmer groups of the highlands, CONDESAN concentrates its fieldwork at seven benchmark sites that broadly represent the major ecological zones. Cross-sectional and common themes, however, are promoted for the entire region. InfoAndina, the electronic information system, is a key component of the Consortium's team-building strategy. Through coordination and facilitation activities by a small coordination unit, the project aims to create effective and strong linkages between research and rural development partners.

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TRAINING HIGHLIGHTS

The topics covered by CIP's training curriculum respond directly to the center's main research areas centered on the production and use of CIP's mandate crops and the conservation and management of natural resources. There is a growing demand for training on natural resource management in mountain areas and on conservation of root and tuber genetic material.

CIP leads training sessions and workshops, organizes and sponsors international conferences, and develops training materials. The more than 40 main training events conducted across the world in 2001 were attended by participants from 63 countries. These activities focused on research methodologies, tools and techniques for developing-

country scientists, and on capacity building for sustainable production, targeted at NGOs, government organizations and development agencies. At CIP headquarters, individual training was provided for participants from 22 countries. CIP also supported training at distant locations by distributing publications and manuals, as well as through the use of electronic media, including downloads of manuals, articles and reports from CIP's training website (www.cipotato.org/training), and e-conferences and workshops.

CIP continues to develop its website and interactive CD-ROMs to support training activities organized by CIP headquarters and regional offices, and by CIP-related networks.

Main group training events

| Event (number of participants in parentheses) | External sponsors | Participating countries |
|---|--|---|
| Course: Methods for detecting bacterial wilt in potatoes and their application to seed programs (17) | Department of Agriculture (Thailand) | Bangladesh, India, Philippines, Thailand, Vietnam |
| Workshop: Information systems for genetic resources management (21) | | Colombia, Ecuador, India, Peru, Venezuela |
| Workshop: Planning, implementing, monitoring and evaluating potato integrated pest management programs (39) | | Argentina, Bolivia, Colombia, Cuba, Ecuador, Peru, Venezuela |
| 10 th International Congress of Andean crops (209) | CONDESAN, FUNDANDES, Universidad Jujuy and Ministerio de la Producción (Argentina) | Argentina, Belgium, Bolivia, Brazil, Canada, Chile, Colombia, Ecuador, France, Mexico, Peru |
| Course: Application of statistics to agricultural research (24) | Universidad Nacional Daniel Alcides Carrión (Peru) | Peru |
| Workshop: In situ conservation of root and tuber crops (16) | SDC | Bolivia, Colombia, Ecuador, Peru |
| Program meeting: Ex situ conservation of Andean root and tuber crops (16) | SDC | Bolivia, Colombia, Ecuador, Italy, Peru, |
| Workshop: Complementing genetic resistance for late blight in the Andes (23) | GILB, PAPA ANDINA, PROINPA | Bolivia, Colombia, Ecuador, Guatemala, Netherlands, Peru, USA, Venezuela |
| Workshop: NCM-ELISA in potato (12) | | India, Indonesia, Nepal, Sri Lanka |
| Meeting: Sweetpotato pig-feeding project in Vietnam: Lao Forage Smallholder Project (11) | | Vietnam |
| Workshop: True potato seed (14) | | Bangladesh, China, India, Nepal, Pakistan, Peru, Sri Lanka, Vietnam |
| Courses: Potato seed production, held in Huanuco and Cajamarca, Peru (77) | DFID | Peru |
| Course: Potato seed production at farmers' field level in Bangladesh (17) | BARI | Bangladesh, India |
| Course: Modeling for crops (DSSAT: decision support system for agrotechnology transfer, version 3.5) and milk production (13) | PRONAMACHS | Ecuador, Peru |
| Workshop: Challenges in integrated mountain watershed management (37) | IDRC | Belgium, Bhutan, Bolivia, Canada, Chile, China, Ecuador, Ethiopia, Kenya, Nepal, Peru |
| Workshop: Geographic information systems for phylogenetic resources management (34) | IPGRI | Argentina, Bolivia, Brazil, Colombia, Ecuador, Italy, Peru |
| Workshop: In situ conservation of agrobiodiversity (41) | SDC, SGRP | Bolivia, Burkina Faso, Chile, Ecuador, France, Germany, Indonesia, Italy, Mexico, Nepal, Peru, Philippines, Spain, Switzerland, UK, USA |

| | | |
|--|---|---|
| Workshop: Prevention and control of tuber moth (<i>Tecia solanivora</i>) (29) | ICA, SENASA, SESA | Colombia, Ecuador, Peru |
| Workshop: Economic impact evaluation in agricultural technology (18) | FAO, IFAD, McKnight Foundation, PAPA ANDINA | Bolivia, Colombia, Ecuador, Netherlands, Peru, Switzerland, USA |
| Course: Scientific paper and proposal writing and oral scientific presentation (26) | PRAPACE | Burundi, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania, Uganda, UK, Zaire |
| Seminar: Biotechnology and development in Andean countries (101) | CamBioTec (Canada), Ministerio de Relaciones Exteriores (Peru), UNIDO | Austria, Belgium, Bolivia, Canada, Chile, Colombia, India, Mexico, Peru, USA |
| Workshop: Progress and prospects of participatory selection of advanced potato clones (12) | FDR, FOVIDA, INIA (Peru), CODESE | Ecuador, Peru |
| Course: Diagnosis of viruses and viroids in the main crops grown in Chanchamayo Valley (20) | Universidad Nacional Daniel Alcides Carrion (Peru), SENASA | Peru |
| Meeting: Appropriate methodology for urban and peri-urban agricultural research planning (29) | ACIAR, RUAF | Bangladesh, Belgium, Germany, Ghana, Indonesia, Kenya, Mexico, Peru, Philippines, Senegal, South Africa, Tanzania, UK, USA, Vietnam, Zimbabwe |
| 2 nd Latin-American symposium on roots and tubers (89) | SLART, Universidad Nacional Agraria La Molina (Peru) | Argentina, Brazil, Canada, Colombia, Costa Rica, Cuba, Czech Republic, Denmark, Ecuador, Finland, Italy, Mexico, Peru, Spain, Uruguay, USA, Venezuela |
| Workshop: Crop protection research program (30) | DFID | Bolivia |
| Symposium: Sweetpotato: Food and health for the future (95) | Universidad Nacional Agraria La Molina (Peru), ISHS | Argentina, Austria, Bangladesh, Belgium, Canada, China, Cuba, Egypt, Ethiopia, Germany, India, Indonesia, Italy, Japan, Malawi, Malaysia, New Zealand, Nigeria, North Korea, Peru, Philippines, South Africa, South Korea, Spain, Tunisia, Turkey, Uganda, Uruguay, USA |
| Workshop: Review and planning of IDM/FFS activities in Nepal (25) | SDC | Afghanistan, India, Indonesia, Nepal, Pakistan, Philippines, Vietnam |
| Workshop: Participatory monitoring and evaluation for integrated crop management (49) | SDC, UPWARD | Bangladesh, Bhutan, Indonesia, Nepal, Pakistan, Philippines, Sri Lanka, Vietnam |
| Course: Participatory research and development (38) | UPWARD | Bangladesh, Bhutan, Cambodia, Ethiopia, India, Indonesia, Laos, Nepal, Nigeria, Philippines, Tanzania, Trinidad & Tobago, Vietnam, Zimbabwe |
| Training for breeders: Marker-assisted breeding (6) | | Ethiopia, Kenya, South Africa, Uganda |
| Course: Use of ELISA kits for detection of <i>Ralstonia solanacearum</i> in seed potatoes (13) | FCRI, NCVESC | Vietnam |
| Workshop: Training of trainers for FFS (89) | EARO, IFAD, SHDI | Ethiopia |
| Course: Participatory research methodologies (27) | McKnight Foundation | Kenya |
| Workshops: 1. Potato seed systems. 2. Quality control techniques (120) | | China, North Korea, Vietnam |
| Workshop: ELISA kits for pathogen diagnosis (30) | | China, North Korea, Vietnam |
| Course: Participatory monitoring and evaluation (37) | UPWARD | Philippines |
| Study tour and workshop: Integrated pest management (13) | PRGA | Indonesia, Philippines, Thailand |
| Course: Sustainable agro-enterprise development in a micro-regional context (3) | UPWARD | Philippines |
| Workshop: Review of recent development in sweetpotato utilization research in China (20) | | China |

Full names of external sponsors can be found in the list of Donor Contributions (page 89) or the list of CIP's Partners (pages 98–99)

CIP'S PARTNERS

AARI Aegean Agricultural Research Institute, Turkey • **AARI** Ayub Agricultural Research Institute, Pakistan • **AAS** Academy of Agricultural Sciences, North Korea • **AB-DLO** Institute for Agrobiology and Soil Fertility, Netherlands • **ADT** Akukuranut Development Trust, Kenya • **AFRENA** African Resource Network in Agro-Forestry, Uganda • **AFRICARE**, Uganda • **AGDIA** Inc, USA • **AGERI** Agriculture Genetic Engineering Research Institute, Egypt • **Agricultural Research Council**, South Africa • **Agricultural Research Institute**, Tanzania • **Agriculture and Agri-Food**, Canada • **AHI** African Highland Ecoregional Program, East Africa • **Ainshams University**, Faculty of Agriculture, Egypt • **AIT** Asian Institute of Technology, Thailand • **AKF** Aga Khan Foundation, Switzerland • **Alemaya University of Agriculture**, Ethiopia • **Angola Seeds of Freedom Project** • **Anhui Academy of Agricultural Science**, China • **APPRI** Agricultural Plant Protection Research Institute, Egypt • **APROSEPA** Asociación de Productores de Semilla de Papa, Bolivia • **Arapai College**, Uganda • **ARARIWA** Association for Andean Technical-Cultural Promotion, Peru • **ARC** Agriculture Research Centre, Egypt • **ARC** Agricultural Research Corporation, Sudan • **ARC** Agricultural Research Council, South Africa • **ARCS** Austrian Research Centers Seibersdorf, Austria • **ARDC** Agricultural Research and Development Centre, Uganda • **AREA** Agricultural Research and Extension Authority, Yemen • **ARI** Agricultural Research Institute, Pakistan • **ARI** Agricultural Research Institute, Tanzania • **ARO** Agricultural Research Organization, Israel • **ASAR** Asociación de Servicios Artesanales y Rurales, Bolivia • **ASARECA** Association for Strengthening Agricultural Research in Eastern and Central Africa, Uganda • **ATDTP** Agricultural Technology Development and Transfer Project, Rwanda • **AT** Uganda Appropriate Technology Uganda • **AVRDC** Asian Vegetable Research and Development Center, Taiwan • **Awasa Research Centre**, Ethiopia • **BADC** Bangladesh Agricultural Development Corporation • **BAR** Bureau of Agricultural Research, Department of Agriculture, Philippines • **BARI** Bangladesh Agricultural Research Institute • **BBA** Federal Biological Research Centre for Agriculture and Forestry, Institute for Biological Control, Germany • **Benguet State University**, Philippines • **BIOGEN** Biodiversidad y Genética, Peru • **BRAC** Bangladesh Rural Advancement Committee • **BRC** Biotechnology Research Center, Vietnam • **BRRI** Bangladesh Rice Research Institute • **BTA** Biotechnología Agropecuaria SA, Chile • **BUCADEF** Buganda Cultural Development Foundation, Uganda • **Bvumbwe Research Station**, Malawi • **CAAS** Chinese Academy of Agricultural Sciences • **CABI** Bioscience, Kenya, UK • **CAB** International, Kenya • **CAF** College for Agriculture and Forestry, Vietnam • **CamBioTec**, Canada • **CARDI** Caribbean Agricultural Research and Development Institute, Trinidad • **CARE** Cooperative for Assistance and Relief Everywhere, USA • **CARE**-Bangladesh • **CARE**-Kenya • **CARE**-Peru • **CARE**-Rwanda • **Catholic University of Leuven**, Belgium • **CavSU** Cavite State University, Philippines • **CBC** Centro Bartolomé de las Casas, Peru • **CECOACAM** Central de Cooperativas Agrarias de Cañete y Mala, Peru • **CEDEPAS** Centro Ecuémico de la Promoción y Acción Social, Peru • **CEMOR** Cemor Editores & Promotores, Peru • **CENA** Civil Engineers Network Africa, South Africa • **Cendrawasih University**, Indonesia • **Centro de Investigación en Biotecnología**, Costa Rica • **Centros de Reproducción de Entomógenos y Entomopatógenos**, Cuba • **CERGETYR** Centro Regional de Recursos Genéticos de Tuberosas y Raíces, Peru • **CFP** Cities Feeding People, Canada • **CGIAR** Consultative Group on International Agricultural Research, USA • **Chiang Mai University**, Thailand • **China 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Yaounde**, Cameroon • **CONAM** Consejo Nacional del Ambiente, Peru • **CONCYTEC** Consejo Nacional de Ciencia y Tecnología, Peru • **CONDESAN** Consortium for the Sustainable Development of the Andean Ecoregion, Peru • **Consortio Surandino**, Peru • **COPASA** Cooperación Peruano Aleman de Seguridad Alimentaria, Peru • **Cornell University**, USA • **CORPOICA** Corporación del Instituto Colombiano Agropecuario, Colombia • **CPPI** Chongqing Plant Protection Institute, China • **CPRA** Centre de perfectionnement et de recyclage agricole de Saïda, Tunisia • **CPRI** Central Potato Research Institute, India • **CPRS** Central Potato Research Station, India • **CRIBA** Centro Regional de Investigación en Biodiversidad Andina, Peru • **CRIFC** Central Research Institute for Food Crops, Indonesia • **CRIH** Central Research Institute for Horticulture, Indonesia • **CRP-CU** Centre de recherche public – Gabriel Lippmann, Luxembourg • **CRS** Catholic Relief Services, Kenya, Uganda, Sudan • **CTCRI** Central Tuber Crops Research Institute, India • **DAE** Department of Agricultural Extension, Bangladesh • **DARHRD** Department of Agricultural Research and Human Resource Development, Eritrea • **DECRG**, Development Economics Research Group, World Bank, USA • **Department of Agriculture**, Philippines • **Department of Agriculture**, Thailand • **Department of Agriculture**, Phichit Horticultural Research Center, Thailand • **Dirección Nacional de Sanidad Vegetal**, Cuba • **Directorate of Root Crop Production**, Ministry of Agriculture, Indonesia • **DPP** Department of Plant Protection, Ministry of Agriculture and Rural Development, Vietnam • **DRCFC** Dalat Research Center for Food Crops, Vietnam • **DRDS** Department of Research and Development Services, Bhutan • **EARO** Ethiopian Agricultural Research Organization (formerly IAR), Ethiopia • **EARRNET** Eastern Africa Rootcrops Research Network, Uganda • **ECABREN** Eastern and Central Africa Bean Research Network, Uganda • **EMBRAPA** Empresa Brasileira de Pesquisa Agropecuária, Brazil • **Empresas de Cultivos Varios del Ministerio de Agricultura**, Cuba • **ENEA** Comitato Nazionale per la Ricerca e per lo Sviluppo dell'Energia Nucleare e delle Energie Alternative, Italy • **Erbacher Foundation**, Germany • **ESH** Ecole supérieure d'horticulture, Tunisia • **ETH** Eidgenössische Technische Hochschule, Switzerland • **FAO** Community IPM Program, Vietnam and Indonesia • **FAO** Food and Agriculture Organization of the United Nations, Italy • **FAPESP** Fundação de Amparo à Pesquisa do Estado de São Paulo, Brazil • **FCRI** Food Crops Research Institute, Vietnam • **FDR** Fundación para el Desarrollo Rural, Peru • **FOFIFA/FIFAMANOR** Centre national de la recherche appliquée au développement rural, Madagascar • **FONAIAP** Fondo Nacional de Investigaciones Agropecuarias, Venezuela • **Food Crop Research Institute**, Vietnam • **FOODNET** (ASARECA network implemented by IITA) • **FORTIPAPA** Fortalecimiento de la Investigación y Producción de Semilla de Papa, Ecuador • **FOVIDA** Fomenta de la Vida, Peru • **FSP** Forages for Smallholders Project, CIAT, Colombia • **FUNDAGRO** Fundación para el Desarrollo Agropecuario, Ecuador • **FUNDANDES** Fundación para el Ambiente Natural y el Desarrollo, Argentina • **GAAS** Guangdong Academy of Agricultural Sciences, China • **GILB** Global Initiative on Late Blight, Peru • **GKF** Grameen Krishi Foundation, Bangladesh • **GLKS** Institute of Plant Genetics and Crop Plant Research, Germany • **HAU** Hanoi Agriculture University, Vietnam • **Hong Doc University**, Vietnam • **Hong Kong University**, China • **HORDI**, Horticultural Research and Development Institute, Sri Lanka • **HRI** Horticulture Research Institute, Egypt • **HUAF** Hue University for Agriculture and Forestry, Vietnam • **Hung Loc Agriculture Research Center**, Vietnam • **Hasanuddin University**, Indonesia • **IAC** International Agricultural Centre, Netherlands • **IAF** Inter-American Foundation, USA • **IAI-ISP** Inter-American Institute for Global Change Research, Initial Science Program, Brazil • **IAN** Instituto Agronómico Nacional, Paraguay • **IAO** Istituto Agronomico per l'Oltremare, Italy • **IAS** Institute of Agricultural Sciences, Ministry of Agriculture and Rural Development, Vietnam • **IASA** Instituto Agropecuario Superior Andino, Ecuador • **IAV** Institut Agronomique et Vétérinaire Hassan II, Morocco • **IBC** Institute for Breeding of Crop Plants, Federal Center for Breeding Research on Cultivated Plants, Germany • **ICA** Instituto Colombiana Agropecuaria, Colombia • **ICAR** Indian Council of Agricultural Research, India • **ICASA** International Consortium for Agricultural Systems Applications, USA • **ICIMOD** International Centre for Integrated Mountain Development, Nepal • **ICIPE** International Centre for Insect Physiology and Ecology, Kenya • **ICO CEDEC** Instituto de Capacitación del Oriente, Bolivia • **ICRAF** International Centre for Research in Agroforestry, Kenya • **ICRISAT** International Crops Research Institute for the Semi-Arid Tropics, India • **ICRW** International Center for Research on Women, USA • **IDEA** Instituto Internacional de Estudios Avanzados, Venezuela • **IDIAF** Instituto de Investigación Agropecuaria de Panamá, Panama • **IEBR** Institute of Ecology and Biological Resources, Vietnam • **IESR/INTA** Instituto de Economía y Sociología Rural del INTA, Argentina • **IFDC** International Fertilizer Development Center, USA • **IFPRI** International Food Policy Research Institute, USA • **IHAR** Polish Plant Breeding and Acclimatization Institute, Poland • **ISHS** International Society for Horticultural Sciences, Belgium • **IIN** Instituto de Investigación Nutricional, Peru • **IIRR** International Institute of Rural Reconstruction, Philippines • **IITA** International Institute of Tropical Agriculture, Nigeria • **ILRI** International Livestock Research 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Program, Nepal • **NRI** Natural Resources Institute, UK • **NRSP-6 USDA** Potato Production Introduction Station—Wisconsin, USA • **NUS** National University of Singapore • **ODER** Oficina de Desarrollo Rural—Chalaco, Peru • **Ohio State University**, USA • **Oregon State University**, USA • **ORS** Oficina Regional de Semillas, Bolivia • **PCARRD** Philippine Council for Agriculture, Forestry and Natural Resources Research and Development, Philippines • **PDL** Proyecto Desarrollo Lechero, Bolivia • **PDP** Potato Development Program, Nepal • **REDCAPAPA** Red Estratégica para el Desarrollo de Cadena Agroalimentaria de la Papa, Ecuador • **PGS** Plant Genetic Systems, Belgium • **Philippine Root Crops Research and Training Center** • **PIA** Programa de Investigación Agropecuaria, Bolivia • **PICA** Programa de Investigación de Cultivos Andinos, Peru • **PICTIPAPA** Programa Internacional de Cooperación del Tizón Tardío de la Papa, México • **Plan International**, Kenya • **Plant 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Institute for Legume and Tuber Crops, Indonesia • **RIV** Research Institute for Vegetables, (formerly LEHRI), Indonesia • **RNC-RC** Jakar, Bhutan • **RCRC-VASI** Root Crop Research Center, Vietnam Agricultural Science Institute • **Rothamsted Experiment Station**, UK • **RUAF** Resource Centre for Urban Agriculture and Forestry, Netherlands • **SAAS** Shangdong Academy of Agricultural Sciences, China • **SAAS** Sichuan Academy of Agricultural Sciences, China • **SARDI-UMCOR** Sustainable Agricultural and Rural Development Initiative—United Methodist Committee on Relief, DR Congo • **SARIF** Sukamandi Research Institute for Food Crops, Indonesia • **SARRNET** Southern Africa Root Crops Research Network • **SASA** Scottish Agricultural Science Agency, UK • **Sasakawa-Global 2000**, Ethiopia • **Save the Children (UK Ltd)**, Ethiopia • **SCRI** Scottish Crop Research Institute, UK • **SEAG** Servicio de Extensión Agrícola y Ganadera, Paraguay • **SEARCA** Southeast Asian Ministers of Education Organization (SEAMEO) Regional Center for Graduate Study and Research in Agriculture, Philippines • **SEMATA** Servicios Múltiples de Tecnologías Apropriadas, Bolivia • **SENASA** Servicio Nacional de Sanidad Agraria, Peru • **SENASAG** Servicio Nacional de Sanidad Agropecuaria e Inocuidad Alimentaria, Bolivia • **SENASEM** Service national de semences, DR Congo • **SEPA** Unidad de Producción de Semilla de Papa, Bolivia • **SESA** Servicio Ecuatoriano de Sanidad Agropecuaria, Ecuador • **SGRP** System-wide Genetic Resources Program, CGIAR • **SGSP** Support Group on Urban Agriculture, Canada • **SHDI** Self-Help Development International, Ethiopia • **SINITTA** Sistema Nacional de Investigación y Transferencia de Tecnología Agraria, Peru • **SITIOS** Servicios Inteligentes y Tecnologías Complejas Superiores Ltd, Bolivia • **SLART** Sociedad Latinoamericana de Raíces y Tubérculos, Peru • **SM-CRSP** Soil Management Collaborative Research Support Program, USA • **SNSA** Service national des statistiques agricoles, DR Congo • **SOCADIDO** Soroti Catholic Diocese Development Organization, Uganda • **Sokoine University of Agriculture**, Tanzania • **South China Agricultural University** • **South China Potato Center** • **Southern Regional Agricultural Bureau**, Ministry of Agriculture, Ethiopia • **Southwest Agricultural University**, China • **SPG** Sociedad Peruana de Genética, Peru • **SPI** Smart Plant International, USA • **SPPC** Centro de Investigación de Semilla de Papa, Yemen • **Sukarami Agricultural Technology Assessment Institute**, Indonesia • **Swedish University of Agricultural Sciences**, Sweden • **SYNGENTA**, USA • **TALPUY** Grupo de Investigación y Desarrollo de Ciencias y Tecnología Andina, Peru • **TARI** Taiwan Agricultural Research Institute • **TCA** Tarlac College of Agriculture, Philippines • **TCRC** Tuber Crops Research Centre, Bangladesh • **Technova Inc**, Japan • **Teso Community Development Project**, Kenya • **TFNC** Tanzania Food and Nutrition Centre • **Thai Nguyen University**, Vietnam • **Thang Binh District Agriculture and Rural Development Bureau**, Vietnam • **The Sainsbury Laboratory**, UK • **Tibetan Academy of Agricultural and Animal Science**, China • **Tim Petani Pemandu PHT Pengalengan**, Indonesia • **UANRDEN** Urban Agriculture National Research, Development and Extension Network, Philippines • **Ugunja Community Resource Centre**, Kenya • **UNDP** United Nations Development Programme • **UNIDO** United Nations Industrial Development Organization • **Universidad Austral**, Chile • **Universidad Cajamarca**, Peru • **Universidad Católica de Santa María**, Peru • **Universidad Central**, Ecuador • **Universidad Central de las Villas**, Cuba • **Universidad de Ambato**, Ecuador • **Universidad de Caldas**, Colombia • **Universidad Federal Rio de Janeiro**, Brazil • **Universidad Jorge Basadre Grohmann de Tacna**, Peru • **Universidad Jujuy**, Argentina • **Universidad Mayor de San 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Agricultural Science Institute • **Vietnamese-German Technical Cooperation Potato Promotion Project** • **Virginia Polytechnic Institute and State University**, USA • **Virus-free Potato Tubers and Cutting Production Centers of Yunnan Agricultural Department**, China • **VISCA** Visayas State College of Agriculture, Philippines • **Volcani Institute**, Israel • **VSSP** Vegetable Seed and Seed Potato, Pakistan • **WE** World Education (and local partner NGOs) • **Winrock International**, Uganda • **World Vision**, Angola, Burundi, Kenya, Rwanda, Uganda, USA • **WRC** Wheat Research Centre, Bangladesh • **WUR** Wageningen University Research Centre, Netherlands • **XSPRC** Xuzhou Sweet Potato Research Center, China • **YPPP** Yemeni Plant Protection Project • **YPPSE** Foundation for Socio-Economic Development, Indonesia • **Yunnan Agricultural University**, China

STAFF

CIP's staff is comprised of a diverse group of highly qualified individuals with varied backgrounds and nationalities. This diversity is integrated into a coordinated effort to achieve a common goal: alleviate poverty and increase food security while protecting the earth's natural resource base. Each and every one of CIP's more than 400

employees worldwide, from scientists to clerical staff to field workers, contributes to this mission in the various functions they perform, and all form an essential part of CIP's working team. Although all their names do not appear in this Annual Report, we recognize and greatly appreciate all their efforts.

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Deputy Director General for Research—Wanda Collins²

Director for International Cooperation—Roger Cortbaoui

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 Coen Bussink, Geographic Information Scientist

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 Alberto Gonzáles, Phytopathologist, Research Associate
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* Project leader

1 Joined CIP in 2001

2 Left CIP in 2001

3 Funded by special project

4 Joint appointment

5 Transferred from CIP-Quito in August

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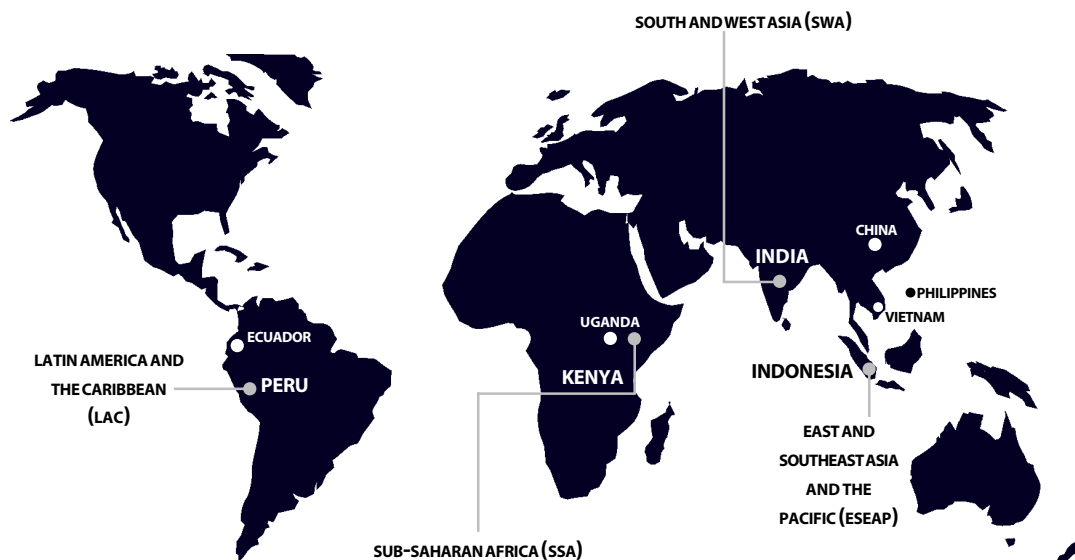
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CIP IN THE WORLD

FUTURE HARVEST

CIP is one of 16 food and environmental research organizations known as the Future Harvest Centers. The centers, located around the world, conduct research in partnership with farmers, scientists, and policymakers to help alleviate poverty and increase food security while protecting the natural resource base. The Future Harvest Centers are principally funded through the 58 countries, private foundations, and regional and international organizations that make up the Consultative Group on International Agricultural Research (CGIAR).

In 1998 the centers supported by the CGIAR created Future Harvest as a charitable and educational organization designed to advance the debate on how to feed the world's

growing population without destroying the environment, and to catalyze action for a world with less poverty, a healthier human family, well-nourished children and a better environment. Future Harvest reaches out to media, academics, scholars, and scientists in the world's premier peace, environment, health, population and development research organizations, as well as to policy-makers and civil society, and it enlists world-renowned leaders to speak on its behalf. Future Harvest raises awareness and support for research, promotes partnerships, and sponsors on-the-ground projects that bring the results of research efforts to farmers' fields in Africa, Asia and Latin America.

For more, visit www.futureharvest.org or www.cgiar.org

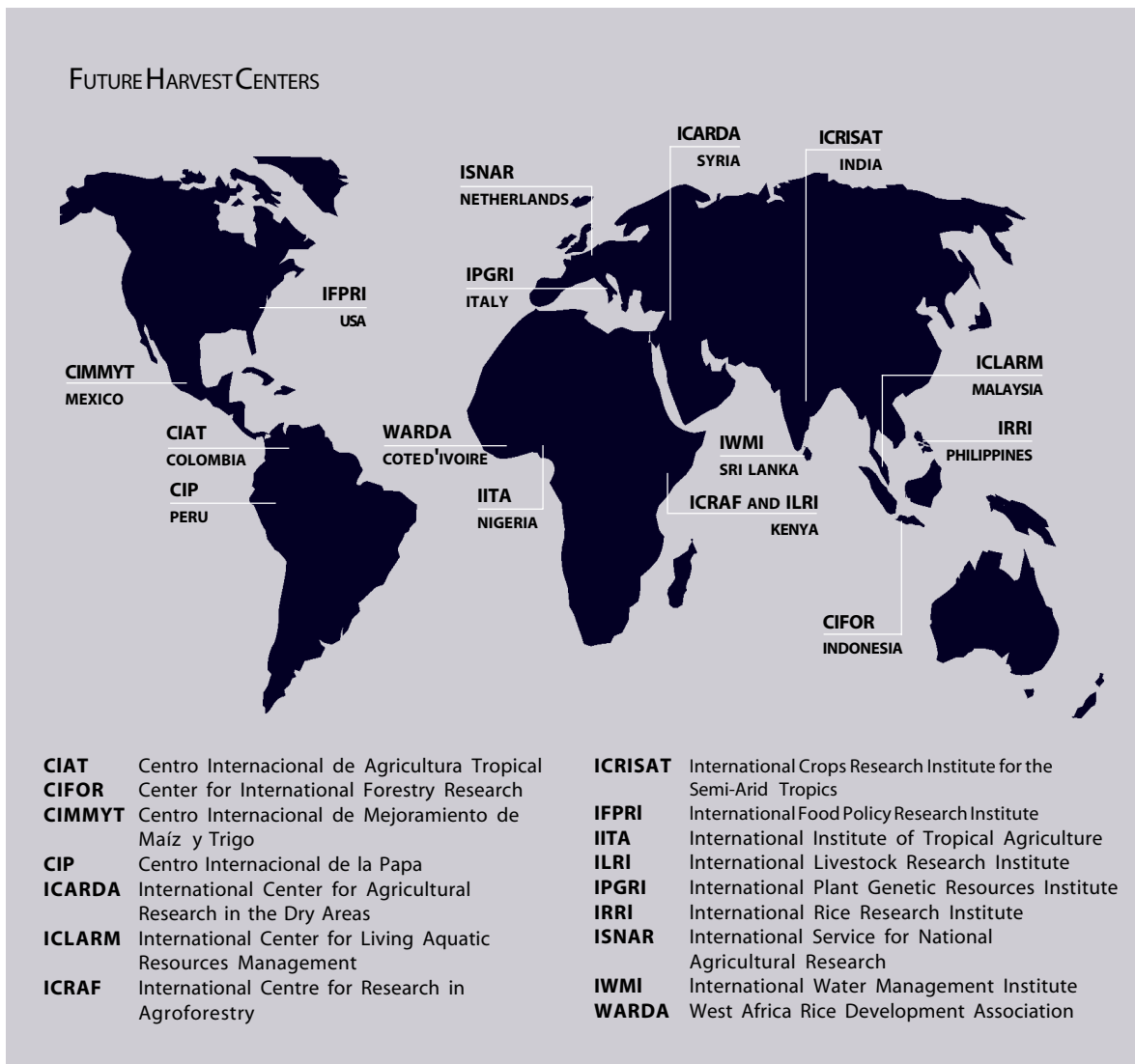


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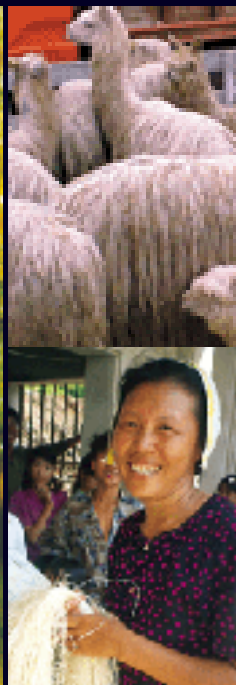
CIP IN 2001

87 (clockwise from top left) Candelaria Atalaya, Pedro Baca (2)

BACK COVER

(clockwise from top left) Alejandro Balaguer, Candelaria Atalaya, CIP Archives, CIP PSNRM, Gordon Prain, CIP Archives

BROADENING BOUNDARIES IN AGRICULTURE



The International Potato Center (CIP) seeks to reduce poverty and achieve food security on a sustained basis in developing countries through scientific research and related activities on potato, sweetpotato and other root and tuber crops, and on the improved management of natural resources in the Andes and other mountain areas www.cipotato.org

FUTURE
HARVEST



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