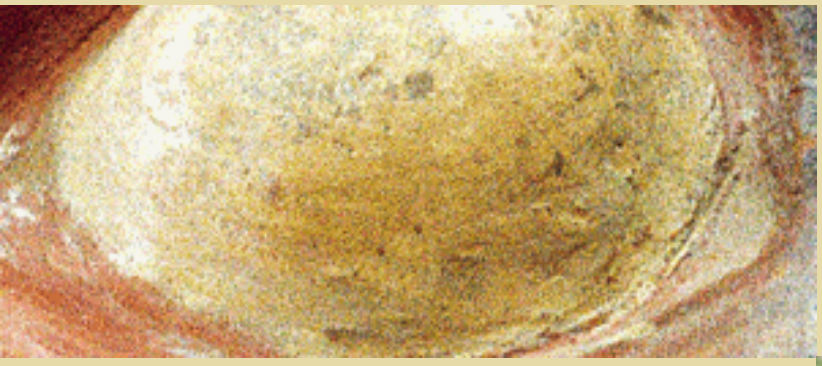

Partnerships for the new millennium

When CIP first opened its doors more than 30 years ago, partnership quickly became a hallmark of its corporate culture

Unique in its time, CIP was designed as a decentralized organization with a minimum of facilities—what might now be called a center without walls—and a philosophy that placed a premium on teamwork and collaboration. "Partnership has always been a serious issue at

CIP," says André Devaux, coordinator of the Center's Papa Andina program. "It's the way we do business and it's an important part of our vision for the new millennium." In 2002, CIP scientists partnered with colleagues working at more than 500 agencies and organizations in some 90 countries (see *CIP's partners*, pages 100–103).

"Partnership is ingrained in the CIP psyche, but it requires special skills and extra effort to do it right," Devaux adds. "For a partnership to succeed you need to have a culture of cooperation that supports actors with diverse interests and philosophies, and your approaches need to evolve over time." Devaux points out that when CIP was established in 1971, Center

scientists and their partners in national research and development agencies focused primarily on increasing food production. Today, the issues they confront are vastly more complex.

"Our agenda now includes improving human health, combating poverty, and helping farmers to cope with global markets," Devaux says. "These are not the issues that CIP was set up to address, but they are part of today's reality and must be part of the solutions that we propose for the future." Devaux notes that to make progress in these areas, an international center such as CIP must find innovative ways of helping its national partners to evolve institutionally.

Papa Andina: Markets and poverty

This emphasis on local institutional development is one of the centerpieces of the Papa Andina program, in which CIP scientists join forces with researchers from Bolivia, Ecuador, and Peru to improve market access and income for smallholder farmers. Building on the success of three Swiss-sponsored national research projects conducted in the 1980s and 1990s, the partners promote cross-border technology and information exchange. One immediate priority is to help subsistence farmers—who are normally unable to compete in commercial markets—take advantage of growing urban demand for potatoes, especially traditional varieties. Poor farmers who grow potatoes above 3,500 meters are currently the only source of these varieties, almost all of which are grown without pesticides. "In the past, we thought this was a disadvantage because of the losses farmers incurred from insect pests," Devaux says. "Market studies conducted by Papa Andina, however, showed the opposite was true. Not only is there demand for traditional varieties, but, increasingly, for pesticide-free potatoes."

These are the types of findings that are derived from what Papa Andina refers to as "institutional platforms," or processes set up to support the exchange of views and experiences

Papa Andina is opening up market opportunities for products such as *chuño* and *tunta*, potatoes processed using a traditional freeze-drying technique developed in the altiplano of Peru and Bolivia.

among diverse actors in the food chain. "One of their most important contributions," says Devaux, "is that people who usually have no voice in decision making—such as subsistence farmers—are able to enter into the dialog." Wide participation in the fora helps producers and consumers, for instance, to work back from the known characteristics of a variety or management practice and develop strategies that can boost farm profits and overcome quality and delivery issues.

The platforms also help identify the need to further improve technology available to farmers and to refine program priorities. For example, Bolivian and Peruvian farm groups associated with Papa Andina have used information derived from the platforms to experiment with simple postharvest techniques that extend potato storage life. With the new practices, farmers can supply the market over an extended period of time and reserve a portion of their harvest until late in the season when prices tend to peak.

"What Papa Andina does is use "poverty filters" or "lenses" that help researchers spotlight strategies that build on whatever competitive advantage farmers might have," adds Graham Thiele, a Papa Andina scientist based in Ecuador. "Because potato is such an important commodity in the three countries where we operate, we are optimistic Papa Andina will help create a regional culture of cooperation among all the organizations that work within the agri-food chain, whatever their philosophy or specific interest."

Papa Andina partners include the Andean Products Research and Promotion Foundation of Bolivia (PROINPA), CIP, the National Root and Tuber Program of Ecuador (FORTIPAPA), the Swiss Agency for Development Cooperation (COSUDE), and the Technical Innovation and Competitiveness Project of Peru (INCOPA).

VITAA: Child and maternal health

CIP's partnership philosophy is also evolving in sub-Saharan Africa. Here, researchers from seven countries are working under the banner of the VITAA partnership (Vitamin A for Africa) to improve human health by reducing vitamin A deficiency, one of Africa's most serious public health problems.

"Until recently, no one gave much thought to using sweetpotatoes to achieve a public health objective," says VITAA coordinator Regina Kapinga. "Researchers focused their work on things like agronomy and plant heath, and gave little consideration to micronutrients," she says. All of that changed, however, with the establishment of VITAA.

Nutritionist Bernadeth Ekemu works through the VITAA partnership to promote the use of orange-fleshed sweetpotatoes among small-scale processors, particulary women.

During its first full year of operations in 2002, VITAA began the process of helping African farmers replace white-fleshed sweetpotatoes—which are grown entirely for their starch—with a new series of orange-fleshed, high-beta-carotene varieties. The body uses beta-carotene to synthesize the vitamin A needed to maintain the immune system. "Orange-fleshed sweetpotatoes are a novelty in this part of the world and they are attracting a lot of interest," Kapinga says. "Not only are the health benefits to children substantial, food products made from the new varieties are helping farmers to earn considerable cash income." VITAA partners, she notes, include agricultural researchers, nutrition experts, health professionals, and private sector food processors from seven sub-Saharan African countries. VITAA donors include the German Ministry for Technical Cooperation (BMZ), the Micronutrient Initiative, the OPEC Fund for International Development, the PRAPACE and SARRNET regional networks (see *Neighbors helping neighbors,* page 11), the Senior Family Fund (see *Donors large and small,* page 70), and the United States Agency for International Development's Micronutrient Program (MOST) and Micronutrient Global Leadership Project. While the partnership also includes a number of government ministries, a growing percentage of VITAA members are nongovernmental organizations (NGOs) and community groups that provide basic services to the region's poor (see *A royal sweetpotato,* page 65).

"What we are seeing in VITAA," Kapinga says, "is the coming together of agencies working in health and agriculture and an acknowledgement that difficult problems require innovative solutions." Kapinga notes that in the past, researchers looked upon farmers as clients. "Increasingly," she says, "we see them as important collaborators." Case in point: In 2002, farmers from Uganda's Lira District, one of the first areas to benefit from the new orange-fleshed

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A ROYAL SWEETPOTATO

In 2002, nearly 40,000 Ugandan farmers received vine cuttings of improved orange-fleshed sweetpotatoes thanks to the personal initiative of Her Royal Highness the Queen of Buganda, and the Buganda Cultural and Development Foundation (BUCADEF), a royal NGO.

The Queen appealed to her subjects to fight malnutrition and poverty by growing and consuming the orange-fleshed varieties. Known locally as the Nabagereka, the Queen is the wife of the Kabaka, Buganda's traditional ruler. She is held in high esteem by Ugandans and plays a pivotal role in mobilizing development efforts throughout Buganda, Uganda's largest traditional kingdom. Because of her support, local officials have named one of Uganda's most popular orange-fleshed sweetpotato varieties in her honor.

The Nabagereka*'s* initiative builds on the research and community mobilization efforts of the Child Health and Development Center of the Makarere University Health Department, together with partner agencies that include CIP, the National Agricultural Research Organization, the US Agency for International Development's Micronutrient Program (MOST) and Micronutrient Global Leadership Project, the Vitamin A for Africa partnership (VITAA), and a local NGO known as Volunteer Efforts in Development Concerns (VEDCO). In locations where farmers have planted improved varieties, on-farm yields have reportedly tripled.

The Ugandan school market

- In Uganda, schools and universities are major markets for sweetpotato roots and vines. One peri-urban farmer, Ruth Musoke, sells more than one ton of fresh roots to primary schools each week. Her net profit over a 16-week season is US$1,000, far above the annual per capita income in Uganda, which according to the World Bank is just US$310.
- In Kampala, commercial farmer Kakoza Mubirigi earns more than US$3,000 during Uganda's four- to five-month sweetpotato production season. Because of his success he was dubbed "Mr Sweetpotato" by residents of Nabyewanga, his home village. But Mubirigi was not content with simply supplying schools with orange-fleshed sweetpotatoes. He has used his earnings to build a modern boarding school, the Bwaise Parents' School, which is now home to over 600 students.

varieties, provided more than 800,000 sweetpotato vine cuttings as planting material for distribution to refugees in war-torn parts of northern Uganda.

UPWARD: Emphasizing the users' perspective

The nature of CIP partnerships is likewise changing in Asia, where agro-ecological and socio-economic shifts are redefining the arena in which agricultural research takes place. "Government decentralization in many Asian countries and the mobilization of stronger community-based groups within civil society are reshaping the way agricultural researchers operate," says Dindo Campilan, coordinator of the UPWARD network (Users' Perspectives with Agricultural Research and Development). "New stakeholders need to be brought into existing partnerships if they are going to be effective in such a dynamic environment," Campilan notes. The 42 organizations currently involved in UPWARD projects include traditional partners—such as national agricultural research organizations—as well as NGOs, local government units, and community-based organizations.

Although their perspectives may vary, all contribute to forging the network's collective vision of sustainable development. Together, the partners carry out projects, many with strong gender components, which involve farmers, processors, and consumers in a range of research and development ventures focused on bringing the benefits of research to marginalized areas and to people who are frequently overlooked by mainstream development projects.

Industrialization and urban migration have also worked to realign food production priorities

UPWARD partners in Indonesia (right) and Nepal (below) use farmer field schools to stimulate discovery-learning and technology dissemination.

in Asian societies, once anchored by cereal-based food systems. "Over the past two decades, the demand for roots and tubers has grown steadily throughout the region," Campilan says. The UPWARD agenda has focused on root crops since the late 1980s, but the network's systems approach has helped it to keep up with these trends, going beyond the bounds of conventional commodity research to look at the broader picture. For example, UPWARD facilitates the activities of the CGIAR Systemwide Program on Urban and Peri-urban Agriculture in the Philippines (see *Urban agriculture initiative gives Manila farmers "flower power"*, page 68).

UPWARD's dynamic, hands-on approach to development allows the network to make the most of innovations developed elsewhere, adapting them to local needs and circumstances. In the Philippines, UPWARD partners are helping farmers take advantage of low-cost systems for producing virus-free sweetpotato planting materials. The new "cleanup" technology—which is already used on a vast scale in China—greatly increases production efficiency, but requires farm groups to acquire new knowledge and operating systems (see *Scientists prepare for new era of CIP–China cooperation,* page 45).

To that end, UPWARD partners are using farmer field schools—previously adapted to sweetpotato production by CIP researchers in Indonesia—to stimulate discovery-learning and technology dissemination. This not only helps local farmers to acquire the skills they need, it has also inspired researchers to redesign equipment using local materials to expand the benefits. By the end of 2002, more than 800 sweetpotato farmers and extension workers from 11 municipalities had learned the new virus cleanup techniques through participation in field schools and on-farm experiments. In addition, local stakeholders not only financed participatory research activities, they also established 46 community nethouses for use in the cleanup process. Preliminary economic analyses indicate that the use of virus-free planting materials has increased farmers' net income by 40 percent.

UPWARD's participating countries include China, Indonesia, the Philippines, Nepal, and Vietnam. The network is funded by the Government of the Netherlands through the Ministry of Foreign Affairs and its Directorate General for International Cooperation.

Urban agriculture initiative gives Manila farmers "flower power"

Researchers in the Philippines are helping improve the country's flower garland industry, a key income-generating activity for the urban and peri-urban poor, by incorporating production mechanisms that will enhance flower productivity and cut pesticide use. In the capital city of Manila and surrounding communities, it is estimated that over 100,000 households—from flower producers and traders to garland makers and street vendors—are involved in the *sampaguita* flower garland industry. Sampaguita, or local jasmine (*Jasminum sambac*), is the Philippines' national flower.

A sophisticated yet informal garland production system operates on a daily basis with great efficiency and coordination: in just 15 hours

the highly perishable flowers are harvested, transported, sold to wholesalers/retailers, made into garlands at the household level, passed on to garland wholesalers/retailers, and finally sold by street vendors to the local population—who value them for use in ceremonies, celebrations, and as bearers of good fortune—and to tourists. Though this complex production process—passed down from generation to generation—works quite well, the industry is beset by declining flower yield and excessive pesticide use.

Working with scientists from the University of the Philippines, farmers' groups, and traders' associations, the CIP-coordinated Strategic Initiative on Urban and Peri-urban Agriculture (SIUPA) launched a project in 2001 to analyze the industry and determine research needs and opportunities. Only one sampaguita variety is traditionally grown in the area. This limited genetic base has led to a drop in plant productivity and flower quality. The project has initiated on-farm trials to introduce new varieties, which offer a greater range of colors and sizes of flowers, in the hope of improving productivity while stimulating the market to put premium prices on these exotic alternatives.

Meanwhile, studies undertaken by the project detected pesticide residues in flower samples provided by farmers, garland markers, and even traders. Pesticide residues can have serious human health consequences. Industry workers reported symptoms of chemical poisoning such as skin allergies, vomiting, and dizziness. And the effects are probably much more widespread, since there is usually less than 24 hours from spraying to the time a customer inhales the fragrance of the flowers. In order to curb farmers' extremely high pesticide use, the project is developing low-cost integrated pest management mechanisms. The first step, already underway, is to determine seasonal occurrence and abundance of major pests.

SIUPA was launched by the CGIAR in 1999 in response to growing urbanization and increasing dependence of city dwellers on farming. It directs knowledge and technologies to urban and peri-urban issues though collaboration with many national and international efforts.

Donors large and small

The Senior Family Fund is not only CIP's newest donor, it is also the Center's smallest. In 2002 the Fund, a small New England philanthropy, provided CIP's Vitamin A for Africa program (VITAA) with two grants totaling US$3,000, about 0.001 percent of the Center's budget.

"You can't always judge a donor's importance against the dollar amount of a contribution," says Hubert Zandstra, CIP's Director General and a former donor representative of Canada's International Development Research Center (IDRC). In 2002, the Senior family financed two field days in Uganda, including events in two war-torn provinces that are bringing improved sweetpotato planting materials to hundreds of refugee families.

"The amounts are small, but the money is being used in ways that support our collaborators and provide them with greater latitude to operate," Zandstra says. "The NGOs and community organizations that have received the Fund's support have expressed not only a feeling of gratitude, but also a sense of encouragement from the fact that people overseas are aware of the situation in rural Uganda and are willing to help."

Zandstra adds that contributions from private investors are likely to play an increasingly significant role at CIP in the years ahead. He notes that the CIP Board of Trustees recently approved a US$32 million fund-raising initiative for genetic conservation that will, in part, target smaller donors.