

# cg iar News

Nourishing the future through scientific excellence

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## WorldFish Center Scientist Wins 2005 World Food Prize: Research effort brings "Blue Revolution" to Poor People

Modadugu V. Gupta, a fisheries scientist from India, won the 2005 World Food Prize. He was cited for "Providing enhanced nutrition to millions of the poor around the globe through his work at The WorldFish Center," and for "Pioneering breeding of carp and other pond fish adaptable to a variety of different environments in rural areas, from Bangladesh to the Mekong Basin countries, thereby helping millions of small-holder farmers gain access to innovative aquaculture techniques in Southeast Asia and beyond."



"Fish is food for millions of poor people in developing countries and a vital source of protein," said Ian Johnson, CGIAR Chairman and World Bank Vice President for Sustainable Development. "Dr. Gupta's remarkable research achievements demonstrate how science-based solutions can benefit poor people."

"Winning the World Food Prize is an honor not only to me but to the WorldFish Center," said the winner, with typical modesty, adding "I am thankful to the many people who supported me in the countries where I have worked."

In a career spanning 15 years, Dr. Gupta's research efforts led to the development of low-input, low-cost aquaculture technologies that allow poor farmers to integrate fish-growing in their activities, a "Blue Revolution" that is increasing the incomes and nutritional well-being of millions of poor farming families in Asia. Fish harvests have increased three to five-fold in Bangladesh, Laos, and other countries in Southeast Asia.

*Continued on page 12*



**CGIAR Chairman**

Ian Johnson

**CGIAR Director**

Francisco Reifschneider

**CGIAR Members**

African Development Bank  
 Arab Fund for Economic and Social Development  
 Asian Development Bank  
 Australia  
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 Syrian Arab Republic  
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 World Bank



# Message from the Chairman and Director

Dear Colleague:

We are pleased to present the July edition of CGIAR News. An e-version is available at [www.cgiar.org](http://www.cgiar.org).

We are delighted that this edition reports on major scientific achievements by the CGIAR Centers and partners.

On June 10, Modadugu Gupta of India, former Assistant Director, International Relations and Partnerships, WorldFish Center was named winner of the prestigious 2005 World Food Prize. Dr. Gupta's pioneering work is helping bring the "Blue Revolution" to poor people in some of the most populous parts of Asia. He is the eleventh CGIAR scientist to receive this honor, and the prize has garnered wide coverage in mainstream media across the world.

CGIAR scientists and partners featured prominently among the winners of the 2005 Development Marketplace, another indicator of the quality and effectiveness of science practiced in the CGIAR Centers. Three projects were among 31 innovative projects chosen in this global competition. At a time of growing recognition of the importance of agriculture in meeting the development challenges of the 21<sup>st</sup> century including Millennium Development Goals, these successes spell hope for poor farming communities all over the world.

Looking ahead, plans are proceeding apace for the Annual General Meeting 2005 scheduled for December 5–8, 2005 in Marrakech, Morocco. We have an ambitious agenda in place, including a Science Forum on "Global Agricultural Science for Impact." We applaud the commitment, energy, and enthusiasm of our Moroccan partners, including Hamid Narjisse and his colleagues at INRA.

Interest in agricultural research and the role of science and technology in development is at an all time high, including in major publications such as the United Nations' report, *In larger freedom*. The Commission for Africa, the Millennium Task Force on Hunger, and the Inter-Academy Panel have all cited the importance of agriculture for achieving sustainable development. These developments bode well for the CGIAR.

Finally, thanks to the support of CGIAR Members, we are pleased that CGIAR financing was \$453 million in 2004, the highest ever.

We wish you a restful summer. As always, we welcome comments at [cgjar@cgiar.org](mailto:cgjar@cgiar.org)

Sincerely,

Ian Johnson  
Chairman

Francisco Reifschneider  
Director

## Royal Accolade for CIFOR Scientist

Dr. Ravi Prabhu, CIFOR Scientist received the Queen's Award for Forestry at Buckingham Palace in recognition of his contributions to forestry and the development of forestry within Commonwealth countries.

The citation noted his "outstanding contributions to work on sustainable forest management," saying that "He has been a pioneer in championing a new approach to forests, one that argues forest management is a dynamic practice which must adjust and adapt as the circumstances, uses and perceptions of forest change. He is a particularly strong advocate for transforming public sector forestry institutions into more dynamic, transparent and accountable, learning-based organizations. A writer, speaker, teacher, and facilitator, Dr. Prabhu has committed himself to bringing together industrial forestry, community forestry, and government organisations. Many young leaders in Asia and Africa have benefited greatly from working with Dr. Prabhu, who is highly regarded for his tireless efforts in mentoring young scientists in developing countries."

Ravi is highly regarded for his contributions to many of CIFOR's most important achievements that have contributed greatly to the forestry sectors of a number of Commonwealth countries, including Ghana, Malawi, South Africa, Tanzania, and Zimbabwe. 🌿



Dr. Ravi Prabhu explains his work to Her Majesty The Queen.

## Announcements

### Welcome to New Board Chairs

Gaston Grenier, Africa Rice Center, succeeding Richard Musangi  
Tony Gregson, IPGRI, succeeding Benchaphun Ekasingh Shinawatra

### Awards

Ismail Cakmak, CIMMYT Board member, was awarded the 2005 IFA International Crop Nutrition Award in recognition of his contribution to human well-being and innovative crop research.

### CGIAR Publications

The following updated CGIAR publications are available from the Secretariat. Please send your request to [cgjar@cgiar.org](mailto:cgjar@cgiar.org)

- CGIAR Corporate Brochure, May 2005 (in Arabic, Chinese, English and Japanese)
- Good News on the CGIAR, May 2005
- Snapshot of CGIAR Impacts, May 2005 🌿

## New Report Available Online

The 2004 Annual Report of the CGIAR System Office is now available online. It is a useful compendium of service offerings and achievements of the eight units that are working together to enhance the CGIAR's performance.

The report is available at:  
[www.cgiar.org/soar/2004/index.html](http://www.cgiar.org/soar/2004/index.html)



## Reforms Continue in the CGIAR through the Work of the Alliance

Meeting together for the first time since formally resolving to develop new ways to work together and better enhance their collective framework via formation of an Alliance, the Committees of the Alliance of the Future Harvest Centers of the CGIAR met at the WorldFish Center, May 4–6, in Penang, Malaysia. The Chair of the Committee of Center Board Chairs (CBC), Professor Uzo Mokwunye, emphasized the importance of the ongoing reforms for the CGIAR System and the role of the Centers. He stressed the need for both the CBC and the Alliance Executive (formerly the Center Directors Committee) to actively contribute to these reforms, in order to ensure the CGIAR remained relevant and proactive in meeting the needs of the poor and the hungry by exploring ways to enhance and build upon partnerships (both within and without the CGIAR).

The Alliance's fresh initiative underway includes developing more effective collaborative decision-making processes as the basis for improved cross-Center collaborations. One area for specific action is the substantial progress made on two Sub-Saharan Africa sub-regional Medium Term Plans: one for Eastern and Southern Africa (in close collaboration with ASARECA and SADC/FANR), and a second for West and Central Africa (working in concert collaboration with CORAF-WECARD). Under the guidance of the Executive Council, progress is accelerating. A high level consultation with FARA, Sub-Regional Organizations and NARS in Entebbe, Uganda takes this process further.

Working with the CGIAR Secretariat, the Alliance has engaged in a dialogue with the Private Sector Committee (PSC) to find ways of enhancing closer interactions and the planning and

implementation of joint programs with the private sector. During the May meeting, the Alliance approved the "Guidelines for Collaboration with the Private Sector" which will serve as a first step toward more substantive interaction with all Centers. A high level meeting is planned in Washington, D.C. September 29–30, 2005.

Progress was also made on a plant genetic resource policy, as the Centers endorsed a common set of agreements between themselves and the governing body of the International Treaty on Plant Genetic Resources for Agriculture (with plans for new Material Transfer Agreements) for the materials held in trust and viewed as global public goods by the Centers. The Committees also approved guiding principles for the development of protection against transgenes in Center collections. The Centers were requested to institute procedures for their specific crops, as warranted. These guidelines can be found on [www.ipgri.cgiar.org/Policy/GMOWorkshop/default.asp](http://www.ipgri.cgiar.org/Policy/GMOWorkshop/default.asp)

The Chair of the Alliance Executive, Dr. William Dar, emphasized that the Centers were geared up for the challenges before them and were encouraged by the new opportunities. He said that the Alliance would continue to build upon earlier reforms and respond quickly to the necessary changes, in order for the Centers to enhance their effectiveness and capacity for action in a changing world.

Uzo Mokwunye  
William Dar

## China-CGIAR Partnership Receives a Boost

The Chinese Academy of Agricultural Sciences (CAAS) hosted a seminar “Agricultural Research for Development in the 21<sup>st</sup> Century: Opportunities for Strengthening the China-CGIAR Partnership,” in April.

“The development of agricultural science and technology in China cannot be separated from the CGIAR,” said Li Zhangdong, Director General of International Cooperation, Ministry of Agriculture, in opening remarks. “There exists great potential for further cooperation.” Dr. Zhai Huqu, President, CAAS, welcomed participants and called on them to “broaden and diversify cooperation with the CGIAR.” He delivered his remarks in Chinese, and Gong Xifeng, CAAS, provided simultaneous translation ably.

The seminar attracted over 50 Chinese participants (from Ministry of Agriculture, CAAS, and Chinese Academy of Forestry Sciences and Chinese Academy of Fishery Sciences) who joined CGIAR partners for a sharing of experiences, and identifying topics for strengthened collaboration between Chinese centers of excellence and CGIAR Centers.

“The CGIAR has a proud history of partnership with China,” said Masa Iwanaga, Director General, CIMMYT, speaking on behalf of the Future Harvest Centers. “This strong base of partnership is built on shared values and understanding, and we look forward to a new era of China-CGIAR collaboration.”

In presenting an overview of the China-CGIAR partnership, Francisco Reifschneider, CGIAR Director, urged participants to consider rapidly accelerating the pace of scientific change as well as the changing contexts in which agricultural research for development is being practiced. He called for greater collaboration, dialogue, and new modalities of working. He noted CGIAR is a small, but effective platform for mobilizing science and encouraged participants to think more expansively about mobilizing resources—intellectual, scientific, and technical—not just financial.

A session co-chaired by Zhang Lijian (CAAS) and Masa Iwanaga featured technical presentations from CGIAR Centers (CIMMYT, CIP, ICRISAT, IFPRI, ILRI, IPGRI, IRRI and World Agroforestry Centre). From China, presentations were made by senior scientists of China National Rice Research Institute, Institute of Crop Sciences, Chinese Academy of Forestry Sciences, Institute of Agricultural Economics, Institute of Livestock Research, and Chinese Academy of Fishery Sciences.

Over the course of the next 12 months, a visioning exercise to determine priorities will be completed. In addition, knowledge-sharing activities will be further strengthened through a China-CGIAR fellowship program, public awareness activities including media training for CAAS scientists, and a joint publications program. The session concluded with a vote of thanks by Ren Wang (IRRI). 🌿



# From the Science Council Chair

Among the questions asked about the Science Council-led effort to identify system priorities for CGIAR research, six were common. I will try to give a brief answer to each of them.

1. Why priorities? The funds currently available for CGIAR research are miniscule relative to what is needed to fulfill the CGIAR goal. We (the Science Council) believe that the CGIAR will achieve the greatest impact by focusing on a small number of well-defined research areas instead of spreading the resources among a large number of more or less related research and development activities.

2. What's new? First, the suggested approach which has developed a small number of system priorities is new. This is very different from current practice where the system's priorities consist of an aggregation of the individual Center activities and plans. Second, we are suggesting that our research be more sharply focused on income and wealth creation among the rural poor, with increasing emphasis on high-value crops, live-stock, and fish. Third, to help low-income countries benefit from globalization, the CGIAR should prioritize research on agricultural and food markets at the national and international level, including research to help small farmers meet food safety and other quality requirements. Fourth, we believe that our research on natural resources should be closely linked with productivity enhancement and undertaken in an integrated manner, primarily at the landscape level. Fifth, we are emphasizing research on two abiotic stresses: drought and salinity. Sixth, we emphasize both quantity and quality improvements in genetic enhancement, and seventh, we want to strengthen CGIAR activities aimed at sustainable management of biodiversity.

3. What's out? The glib answer is that what is not explicitly included is not a priority. We have tried to identify what should be prioritized rather than what should not. The latter becomes an outcome of the former. The Science Council will scrutinize the Centers' Medium Term Plans and suggest to each Center which research activities should be either phased out over the three-year transition period or included in the 20 percent of the CGIAR budget, that is outside the priority areas. The Future Harvest Centers currently spend a significant portion of their resources on development and emergency relief activities rather than research. Such activities are surely important but other organizations exist to do them. Much of the development work consists of country-specific projects that are neither research nor international public goods. While some of these projects are logical extensions of research done by the Centers, much is simply projects for which money was available. The Future Harvest Centers should not become consulting firms in which availability of project funds dictate the priorities. The world's foremost publicly funded international agricultural research alliance should focus on what it is best at, namely the creation of international public goods type knowledge and technology and leave the development projects and research that is unlikely to benefit many developing countries to others. The Future Harvest Centers should help strengthen national agricultural systems through collaboration and training, instead of doing their work for them. In our suggested priorities, the Science Council aims at strategic research which will facilitate pro-poor development in many low-income countries.

4. What is included in the 20 percent? Good research takes place in an environment of innovation, in which research institutions and researchers

have flexibility to "think outside the box". Maintaining a proper balance between a sharp system focus on priority research and the freedom to innovate outside the system priority areas through exploratory research, is of critical importance for the CGIAR. The Science Council recommends that 10 percent of the CGIAR funding be allocated to exploratory research. The remaining 10 percent is meant for free-standing capacity strengthening activities and development activities closely related to priority research.

5. How will the system priorities be implemented? We suggest that a stakeholder discussion on implementation issues take place as soon as the priorities are agreed upon.

6. How will the system priority research be funded? There are basically two ways. First, a continuation of current bilateral funding arrangements between individual Centers and individual donors in which the only condition stipulated by the donor would be that the funds are used for priority research, or specific priorities identified in each Center's Medium Term Plan. This would give each Center the flexibility to allocate its resources within the priority research it has agreed to do, instead of having to deal with a large number of small projects, which might lead to misallocation of resources and excessive transactions costs. Second, donors could decide to allocate funding to the system, rather than selected Centers, for research on system priorities in general or for identified priorities. This would require a new mechanism for allocation to Centers and system priorities. Such an approach is currently being discussed by a CGIAR task force. The two funding approaches can operate side by side.

Per Pinstrup-Andersen

## Quality Protein Maize in Northwestern India: Full of Protein and Potential

A new, early-maturing, quality protein maize hybrid developed by the Indian Council for Agricultural Research (ICAR) could provide small-scale farmers with bigger harvests and better nutritional quality. Raman Babu, the maize breeder who developed the new hybrid using a combination of biotechnology and conventional methods, hopes it will improve livelihoods and food security in the northwestern hills of India, where many depend on maize as a staple.

“Quality protein maize grain has almost twice the lysine and tryptophan of normal maize,” says Babu, who works at ICAR’s Vivekananda Institute of Hill Agriculture, in Almora, Uttaranchal State, India. “The higher levels of those amino acids make more of the grain’s protein useful to humans and farm animals.”

Quality protein maize was developed by CIMMYT in the 1980s using conventional breeding methods. In 2001, Babu crossed lines of this maize with the parents of a popular, normal hybrid, Vivek Hybrid-9, already grown by farmers in nine states of India. He then used molecular markers—DNA signposts for genes of interest—to quickly select the progeny that contained both the desirable parentage of the original hybrid plus the quality protein trait. For this effort, CIMMYT provided donor lines, the methodology, molecular markers, and technical guidance along the way.

“Using this approach, we were able to develop the quality protein maize hybrid in less than half the time it would have taken using only conventional selection methods,” Babu says. After passing national trials in the next one or two years, the new hybrid should be available to farmers at a nominal cost from government agencies that produce the seed.

“The potential for this new hybrid is good, because it’s the only early-maturing, yellow grain, quality protein maize available and has all the desirable characteristics of Vivek Hybrid-9,” he says. In demonstration plantings, the new hybrid produced more than double the state averages of local and open pollinated varieties. The slightly different combination of parent lines used means that the new hybrid yields even more than the original. “This is extraordinary, because we’d tried unsuccessfully for years to develop something that could outyield Vivek Hybrid-9,” says Babu. 🌱



Subsistence farmers like this one, who live in isolated regions of South Asia near the Himalayas, use all the maize they grow either as food or as feed for farm animals. They should benefit from both the high yields and the nutritional advantages of the new quality protein hybrid maize.

## May 30 is National Day of the Potato in Peru



The Peruvian Government declared 30 May as the National Day of the Potato. This decision was announced in Lima through a “Resolución Suprema” signed by the President of the Republic and the Minister of Agriculture.

“This is an important development that will help to promote and disseminate better the exceptional

attributes of this noble tuber” said Hubert Zandstra, then Director-General of the International Potato Center. Dr. Pamela Anderson has since succeeded Dr. Zandstra.

“The potato is currently the fourth most important food crop in the world, with an annual production close to 300

million tonnes. Almost half of the global production comes from the developing countries while 40 years ago that percentage was only 11 percent. It is without doubt that Peru has bequeathed to the world one of the most important and indispensable foods in the diet of many cultures”, he added.

The introductory text of the law emphasizes potato’s leading role as nutritional food since ancient times, not only in Peru, but all over the world: “The potato crop is crucial in the history, development, culture and cuisine of Peru, especially for Andean people; its genetic wealth has contributed to global food security.” The law states “that it is necessary to promote and revalue [the potato’s] cultural diversity and the ancient technologies related to the crop, and to enhance its consumption.”

For more information, [www.cipotato.org](http://www.cipotato.org) 🌱

# Creative Thinking Brings Hope to Thousands



IRRI's Monina Escalada receives her prize from World Bank President James D. Wolfensohn.

What if spraying *fewer* pesticides did *more* to combat the most harmful pest ravaging your farm in Hyderabad, India? Imagine if you could learn about science and integrated pest management while listening to a radio soap opera? Imagine, too, if an Italian child could buy a Cameroonian gold fish as a pet.

Three researchers—including two from CGIAR—who developed creative techniques that respond positively to these thoughts were among 31 others chosen as winners of the 2005 World Bank Development Marketplace, a global competition that supports innovative, development ideas while delivering results in the fight against poverty.

"The CGIAR and its partners are at the forefront of scientific innovation, essential

for developing innovative solutions to generate wealth and reduce poverty in an environmentally responsible manner," said Ian Johnson, CGIAR Chairman and World Bank Vice President for Sustainable Development. "These projects show science for people at its best."

The Development Marketplace attracts a variety of individuals and institutions from across civil society, including academic institutions, farmers' groups, and the private sector to work in partnership fighting poverty. The three winners received over \$430,000 in prize money.

## The Winning Projects

*Traditional Technology with a Modern Twist:* Indian farmers spend over US\$500

million each year on insecticides to combat the *Helicoverpa armigera* pest that attacks nearly 200 crops, including beans, cereals, and fruits. "Farmers commit the mistake of thinking the more pesticides, the better" said Ranga Rao Gangavalli, ICRISAT plant pathologist who is leading an effort to introduce new techniques to counter the damaging pest in India. The Center for World Solidarity (CWS), in partnership with the ICRISAT, national scientists, and local communities is providing Indian farmers with cheaper and more eco-friendly pest management alternatives, including the nuclear polyhedrosis virus (NPV) technique that causes heavy mortality in pod borers without harming other organisms.

The NPV can be produced for one-third the cost of pesticides and creates addi-

tional income-generating opportunities for farmers. "We anticipate farmers will save an average of \$17 per hectare by using village-level production units, and participatory training will ensure the project's long-term sustainability," asserted Ranga Rao Gangavalli.

*Environment Radio Soap Opera for Rural Vietnam:* Thousands of rice farmers in Vietnam use excessive amounts of fertilizer, pesticide and water that contribute to environmental pollution and resource degradation. Starting this year, a unique collaboration between social scientists, ecologists, and creative writers will result in an informative and motivational radio soap opera that teaches rural communities in Vietnam's Mekong Delta to reduce chemical use on farms and cut farmer's exposure to pesticides. The project, pioneered by a joint partnership between Vietnam's Broadcasting Authority, the Vietnam Ministry of Agriculture and Rural Development, and IRRI plans to reach

approximately 10 million rural households.

"The scientific data on water management, crop residue management, and Integrated Pest Management (IPM) already exists," says Monina Escalada, rice researcher at IRRI and project leader. "The key was to find a simple and accessible medium of dissemination for which the humble radio is perfect." Radios are a traditional, low-cost communication tool, and soap operas are a popular source of entertainment across Vietnam.


The biweekly broadcasts convey stories on effective plant protection using biological control methods and the hazardous effects of pesticides, combining them with elements of human drama such as love, conflict, childbirth and death. In addition, farmers receive training materials.

*Sustainable Use of African Rainforest Rivers:* Many people do not know that

rivers in the rainforest areas of southern Cameroon contain over 200 species of ornamental fish, valued at \$1.8 million per ton in the international markets. However, overfishing and the destruction of over one million hectares of forests annually have caused loss of biodiversity and increased poverty in the region. In an effort to capture untapped resources, the Cameroon National Agriculture Research Institute and the Organization for Environment and Sustainable Development, in partnership with the WorldFish Center, developed a business model to raise and sell ornamental fish through a multi-stage capacity building program.

"In pioneering this initiative, we recognize communities are searching for new ways to improve their living standards by developing competitive products they can sell on the global market," said Randall Brummett, project leader at WorldFish Center. The training program will increase returns to local communities by around 500 percent teach them techniques for safe fish capture, handling culture, as well as management and marketing skills. With a special focus on women and youth, the program will ensure future generations of Cameroonians are better prepared to face the development challenges of their time.

"Innovations for Livelihoods in a Sustainable Environment," was the theme of the 2005 Development Marketplace, and 2005 was a banner year: over 2,600 applications were received from 136 countries, and 78 finalists were chosen by a jury of 34 specialists. Finalists participated in a two-day competition and exhibition held in May 2005 at World Bank headquarters in Washington, DC.

For more information,  
[www.developmentmarketplace.org](http://www.developmentmarketplace.org) 



## HarvestPlus and Brazil Team-Up on Biofortification


In a major boost to the HarvestPlus Challenge Program, EMBRAPA and the Brazilian Ministries of Agriculture, Health, Science & Technology and Hunger & Social Development have endorsed the development of biofortified staple crops for northeast Brazil, and transfer of technology to Africa.

On March 17, 2005, a Brazilian HarvestPlus team of plant breeders and nutritionists presented an overview of the current state of research on biofortified crops to an audience of Brazilian policy makers and national scientists. The meeting proved to be critical for the endorsement of biofortification as a viable strategy to reduce micronutrient malnutrition in Brazil.

Roberto Rodrigues, Minister of Agriculture, Livestock and Supply hosted the event, and opened the symposium by affirming strong support: "The Ministry of Agriculture strongly supports HarvestPlus as an innovative program with a multidisciplinary team in the areas of plant breeding, biotechnology, human nutrition, food science and economy, in order to fight micronutrient deficiency. The Ministry has particular interest in the development and diffusion of technologies that will be accepted by the farmers and can cause an impact in the health of the population," he stated.

In northeast Brazil, iron deficiency anemia affects nearly 50 percent of children under age two. Vitamin A deficiency is a chronic problem impacting mainly children in low-income families in parts of north, northeast and southeast Brazil. The biofortification approach has been designed to complement existing nutrition interventions being implemented in these regions so as to reach poor and undernourished people who may not have access to other nutritional programs.

Brazilian scientists from EMBRAPA, food technologists from Brazilian Universities, and micronutrient specialists from around the world presented the latest HarvestPlus achievements in plant breeding for iron in bean, and provitamin A carotenoids in maize and cassava. Over 500 nutrient-dense lines of beans from core collections at EMBRAPA and CIAT have been identified and planted. Once harvested, these varieties will be evaluated for nutrient content under field conditions. Over 1400 potentially nutrient-dense maize lines have been planted at EMBRAPA, and 1800 native cassava accessions have been analyzed of which 60 high iron and zinc lines have been identified for further multiplication.

Thanks to these efforts by HarvestPlus and partners, Brazilian policy makers have become key supporters of biofortification approaches to reducing malnutrition. 

## Advancing Women's Leadership in the CGIAR

CGIAR's Gender and Diversity (G&D) Program hosted its 10<sup>th</sup> Women's Leadership and Management Course at ICARDA in May.

"I enjoyed it immensely! The combination of personal analyses and management tools made it an extremely useful course," enthused Anneke Fermont, a cassava scientist with IITA. "I feel better equipped now to solve problems. Hopefully, all my team members will reap the fruits of this course!"

The course covers multicultural teamwork, power dynamics, emotional intelligence and networking. Nearly a third of the participants were women from Central and West Asia and North Africa (CWANA) national agricultural research institutions, thanks to support from the Syngenta Foundation for Sustainable Agriculture.

"Before attending the course, I was rather skeptical because it was billed as a 'Women's Only' course but I have now seen its value," said Ms. Fermont. "Being with women created the safe environment needed to analyze one's personality and to dare experimenting with new behaviors. It also enabled learning from each other as many of us were experiencing similar problems."

Another participant reflected, "The most beautiful gift the course has given me is the power to give to myself, and to others."

This year could easily be described as "Year of Women's Leadership in the CGIAR," with a record three courses being offered. July will see the alumnae of previous courses re-convening in Mombasa, Kenya for the 10th anniversary Advanced Women's Leadership Course. The curriculum will cover important topics such as understanding how women are "tested" in their leadership roles and learning how to respond strategically; recognizing how territorial games affect leadership and organizational effectiveness; adjusting leadership style according to organizational changes, and acknowledging internal sources of power, trust, energy and competence.

An impact assessment of the CGIAR Gender and Diversity program will be conducted by the Center for Gender in Organizations. This study will not only help G&D take stock of the past, but also better prepare for the future needs of women leaders in the CGIAR system.

A second women's leadership course will be held in October 2005 at the ILRI campus in Addis Ababa. Participants will include the fellows of a new program for women scientists working in crop sciences in East African national agricultural research systems and universities. This new fellowship program is supported by The Rockefeller Foundation.

For more information, click on [www.genderdiversity.cgiar.org](http://www.genderdiversity.cgiar.org) 

# Fighting, and Winning the War against Green Plague

Pigeonpea is a major legume crop in the Indian subcontinent, and an important source of dietary protein for over one billion people. However, farmers suffer devastating losses from sterility mosaic disease (SMD) and the pigeonpea sterility mosaic virus (PPSMV). Now, thanks to an innovative partnership, a new pigeonpea variety—ICP 7035—released for cultivation in southern Karnataka State is helping farmers achieve stable yields.

With support from the UK's Department for International Development (DfID) together with other CGIAR Members, scientists from ICRISAT and the University of Agricultural Sciences, Bangalore, have evaluated ICP 7035 for disease resistance in SMD hot spots. Significantly, they found ICP 7035 was immune to infection by PPSMV isolates as well as the mite vector.

"ICRISAT is winning the war against green plague", said William Dar, Director

General, ICRISAT. "By identifying the causal agent of SMD, ICRISAT has won a major battle. Varieties like ICP 7035 can prevent yield losses and thereby enhance incomes of pigeonpea farmers." Such breakthroughs could ultimately increase pigeonpea production by 20 percent in southern Karnataka. In SMD hot spots, yield increases ranging from 20 to 90 percent have been recorded in the improved varieties, whereas local varieties succumb to the disease.

PPSMV disease is regarded as "Green Plague," that spreads rapidly in farmers' fields and renders plants sterile by inhibiting flower production. Affected plants bear no pods. Tens of millions of farm families are affected, suffering massive losses estimated to exceed \$300 million annually in India and Nepal alone.

The ICP 7035 is a unique landrace that is suitable for use as a legume and veg-



etable crop. When the pods are green, the bold seeds are used as a vegetable, similar to garden peas. When dry, the legume is suitable for cooking and consumption along with cereals. The ICP 7035 vegetable seed has 8.8 per cent sugar, the highest found in pigeonpea, comparable in sweetness to peas. Edible portions of dry seeds contain 19.6 percent protein, 27.4 percent dietary fiber and 33 percent starch, and the seeds are rich in micronutrients. In addition, the purple seed coat of ICP7035 has high amount of anthocyanins, a dietary antioxidant that provides significant health benefits.

This dual-purpose pigeonpea variety is helping poor farmers fight the "Green Plague" while also diversifying their sources of income. 🌱

# Planting Seeds of Agrobiodiversity Conservation in Young Minds

The paintings show flowing rivers, lush crops, and smiling farmers. These expressions of creativity, by a small group of school children aged 10–14, from Jordan, Lebanon, Syria, and West Bank and Gaza show that young children fully understand that agrobiodiversity is essential to life, and that its conservation lies in their hands.

ICARDA's Dryland Agrobiodiversity Project, funded by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP) worked with the Ministries of Education in three countries and West Bank and Gaza to introduce the concept of agrobiodiversity conservation and its value to society in school curricula. Lectures, field visits to project sites, documentary films, brochures and posters were all aimed at increasing awareness among children—the future policy makers and custodians of agrobiodiversity.

School children participated in a painting contest to assess their understanding of various aspects such as crop diversity, the role of agrobiodiversity in human nutrition, in diversifying incomes, major factors responsible for agrobiodiversity degradation, the role of farmers and local communities in conservation, and the need for law enforcement.

Project managers from Jordan, Lebanon, Syria, and West Bank and Gaza, as well as ICARDA and IPGRI, selected the winning entries from among the 1,000 paintings sent by children. To demonstrate the practical uses of agrobiodiversity to children, a fair was held in Sweida, Syria in April 2005, followed by a tour of project areas in Jordan, Lebanon, and Syria.

ICARDA's Dryland Agrobiodiversity Project is all about creating the holistic approaches necessary for conservation efforts to succeed.

For more information, [www.icarda.org](http://www.icarda.org) 🌱





Researchers from IWMI and Khon Kaen University, Thailand gather at a soil remediation plot.

## Reversing Soil Degradation in Southeast Asia through Low-Cost Clay-based Technologies

Chronic poverty and poor soils are twin problems that affect poor farmers in the developing world. Poor land management practices often result in low agricultural output which threatens food and livelihood security. Researchers from IWMI and Thailand's Khon Kaen University have explored new approaches to combat and reverse soil degradation using bentonite clays that rejuvenate the soil. This practice provides an alternative to current unsustainable approaches that treat soils using termite mounds or material dredged from reservoirs.

Northeast Thailand's Land Development Department (LDD) has adopted the clay-based approach which includes the use of co-composted bentonite technology developed by IWMI. Combined with limited amounts of lime, bentonite offers an eco-friendly and sustainable option for increasing soil productivity. Farmers accept this option because they recognize the potential of adding clays to soils. Research has shown that yields of organic rice increased dramatically when organic composts and clay-based materials were introduced. This product, called LDD 10,

will be promoted throughout 2005. Around 200 farmer families in 200 villages in Northeast Thailand are using clay-based materials, indicating that approximately 20,000 farmers are aware of this practice. In Cambodia, some 400 households are using clay-based technologies, while in Vietnam, IWMI was approached by the South Vietnam Department of Agriculture for advice on the use of bentonites. Estimates show that approximately 900,000 hectares in South Vietnam could benefit from this technology. 🌱

## WorldFish Center Scientist Wins 2005 World Food Prize (continued)

"We are truly delighted that Dr Gupta's lifelong dedication and commitment to making a difference in the lives of poor people has been recognized," said Stephen Hall, Director General, WorldFish Center. "This award is a testament to the pivotal role that fisheries and aquaculture can play in improving the lives of poor people."

The announcement was made June 10 in the ornate Benjamin Franklin Room of the U.S. Department of State by Ambassador Kenneth Quinn, President of the World Food Prize Foundation.

The \$250,000 will be presented to the winner on October 13, 2005 in Des Moines, Iowa, USA The World Food Prize

honors outstanding individuals who have made vital contributions to improving the quality, quantity or availability of food throughout the world. Dr. Gupta is the eleventh CGIAR scientist to have won this coveted prize.

For more information: [www.worldfish-center.org](http://www.worldfish-center.org), [www.worldfoodprize.org](http://www.worldfoodprize.org) 🌱

## NERICAs gather Momentum

Efforts to widen dissemination of New Rices for Africa (NERICAs) received a boost in May, thanks to African Development Bank funding for a new project to be implemented by the Africa Rice Initiative (ARI). The project has four major components: technology transfer, production support, capacity building, and project coordination.

“The launching of the AfDB-ARI project is especially rewarding for us because it validates our creation of ARI for coordinated dissemination of NERICAs across Sub-Saharan Africa” said Kanayo F. Nwanze, Director General, The Africa Rice Center. He added that the project was endorsed by NEPAD as one of the “best practices worth scaling up.”

This regional launch of the project in Accra was significant not only for Ghana, but also for The Gambia, Nigeria and Sierra Leone. For the three French-speaking pilot countries—Benin, Guinea and Mali—the regional launch was conducted in Conakry, Guinea. The launches mark the culmination of months of preparatory work by ARI and partners for the \$35 million grant and loan agreement to support dissemination of NERICAs in seven West African countries over five years.

“We are equally indebted to The Rockefeller Foundation, which has championed the cause of ARI right from the beginning, as well as to Japan, UNDP and Sasakawa Global 2000 who are staunch supporters and partners of ARI” said Dr. Nwanze.

The project seeks to help small-scale producers in pilot countries to improve rice production and incomes through the dissemination of NERICA varieties and complementary technology from WARDA. About 80 percent of the targeted beneficiaries are poor people living in rural areas, mostly women.

The project estimates that about over 33,000 farm families will be involved in the participatory variety selection (PVS) strategy to accelerate dissemination of NERICAs. At the end of the project, an estimated 400,000 hectares of additional land is expected to be brought under NERICA cultivation. The rice import bills of the seven countries are expected to be reduced by about \$100 million.

According to WARDA economists, rice demand in West and Central Africa is growing at 6% per annum—faster than anywhere else in the world. The growth is largely the result of urbanization (which is growing at the rate of 3.5% per year in Africa, again the fastest in the world) and changing consumer preferences. As domestic rice production alone cannot meet this rising demand, rice imports in the region have increased eight-fold, to 4 million tons per year since the 1960s, at an annual cost of over \$1 billion.


“The launch of the new project is timely,” commented Inoussa Akintayo, ARI Coordinator. “The advantages of NERICAs are higher yields, early maturity, resistance to local stresses and good taste.”

Under farmers’ conditions, NERICA varieties raise the yield of upland rice from less than 1 to more than 1.5 tons per hectare. With minimal application of fertilizers, yields can reach 3 tons per hectare. NERICAs mature 30 to 50 days earlier than other rice varieties, a trait that is particularly valuable for rural women to bridge the ‘hungry season,’ a time when food stocks from the previous harvest have been exhausted and the current crop is not fully mature.

Upland NERICAs are planted on more than 100,000 hectares across Africa, including about 70,000 hectares in Guinea and more than 10,000 hectares in Uganda. The project plans to tackle seed shortages, the biggest bottleneck in dissemination of NERICAs.

The Africa Rice Center and its national partners have recently achieved another scientific breakthrough: the development of NERICAs for lowlands. The new varieties are already gaining popularity among farmers. Four lowland NERICA varieties were released in Burkina Faso, and two in Mali in early 2005.

Dr. Nwanze cautioned that technologies such as upland and lowland NERICAs alone cannot bring about an agricultural revolution in Sub-Saharan Africa. These innovations need to be complemented by political and social stability, sound agricultural policies, removal of unfair subsidies, improved infrastructure, public-private partnerships, access to credit, competitive local and regional markets, and political commitment at the highest levels. “Only then will we be able to capture the full benefits of breakthroughs such as upland and lowland NERICAs,” he concluded.

For more information, [www.warda.org](http://www.warda.org) 



# CGIAR Forging Ahead with Public-Private Partnerships

An innovative initiative, dubbed “Scientific and Know-How Exchange Program (SKEP)” is forging stronger ties between the CGIAR and private sector. The initiative seeks to promote technology and knowledge transfer between scientists working in the private sector and CGIAR Centers.

The new initiative is off to an excellent start. Under the umbrella of SKEP, a senior manager from Bayer CropScience AG will be spending up to six months at the International Food Policy Research Institute (IFPRI), researching institutional issues and the role of food policy.

“We are delighted to host a top manager from Bayer CropScience AG,” said Joachim von Braun, Director General,

IFPRI. “The SKEP initiative is helping solidify public-private partnerships in the CGIAR for the ultimate benefit of poor farmers.”

The SKEP initiative arose from discussions in the CGIAR Private Sector Committee (PSC) which serves as a link between the CGIAR and agricultural private sector organizations in industrialized and developing countries. SKEP is guided by a three-member operational management team, including one representative each from industry, CGIAR Centers (Future Harvest Alliance Office), and CGIAR Secretariat. For the first year, 4–5 exchanges are planned.

For more information and expression of interest, please email [psc-skep@cgiar.org](mailto:psc-skep@cgiar.org) 

## Adapting to climate change and generating income with trees: a Q&A with Louis Verchot

In February 2005 the Kyoto Protocol to reduce global warming came into force. Mitigating climate change and devising adaptation strategies to help poor farmers is central to the CGIAR’s mission because agriculture is one of the largest contributors of greenhouse gases.

Louis Verchot, Lead Scientist on Climate Change, World Agroforestry Centre, shares his perspectives on this challenging topic with readers of “CGIAR News.”

**Q: What are the impacts of climate change for developing countries?**

**A:** The impact depends on where you are. Some countries will get wetter and others will get drier, but **all** will get warmer. Climate change is yet another constraint for developing

countries to overcome. In a coffee-producing country like Uganda, an increase of only 2 degrees in the average temperature makes 80% of the land no longer suitable to grow this cash crop.

**Q: What role can agroforestry play in mitigating climate change in developing countries?**

**A:** First, agroforestry can increase the resilience of farming systems to variations in rainfall and temperature. Growing coffee under trees for instance—shade coffee—will reduce field temperatures and yield better quality beans. Secondly, farmers can plant agroforestry trees that absorb greenhouse gases and sell carbon credits to companies that want to offset their contribution to global warming.

**Q: What are the major projects underway at World Agroforestry Centre dealing with mitigating climate change?**

**A:** The Western Kenya Integrated Ecosystem Management Project is developing carbon trading models for smallholder farmers. The carbon trade revenues, though currently modest at \$8 per ton of sequestered carbon, will be pooled for community development projects like sustainable seed production or improved roads for better market access. In Uganda, we are collaborating with Ecotrust, and others, in a carbon trading pilot project targeting smallholder farmers who cannot access the highly-regulated formal carbon markets.

For more information, [www.worldagroforestrycentre.org](http://www.worldagroforestrycentre.org)

# In Memoriam

*Ravindra Tadvalkar*  
*Jan. 17, 1950-March 10, 2005*

Ravi Tadvalkar passed away on March 10. Hindu last rites were said for him on March 12, in the presence of his family, friends and colleagues. A strong CGIAR presence was led by Ian Johnson, CGIAR Chairman and World Bank Vice President for Sustainable Development. Eulogies commemorating and celebrating Ravi's life preceded religious observances. He is survived by his wife, Gauri, and two children, Chetan and Rashmi.

"I had the privilege of working closely with Ravi for the past four years," said Francisco Reifschneider, CGIAR Director. "Ravi's financial acumen, personable nature, and commitment to the CGIAR were a source of inspiration."

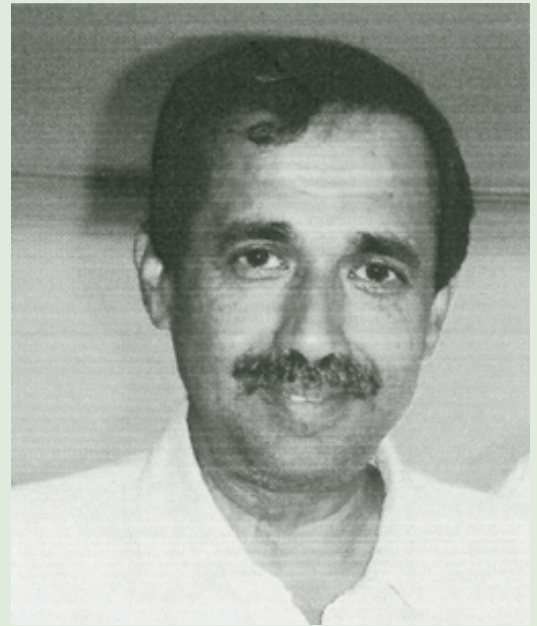
In his eulogy on behalf of CGIAR, Selcuk Ozgediz said "Ravi had a mental map of the CGIAR that no one else had ... His mental map showed all the checks and balances and understanding of the implications of any action one could possibly take. Indeed, Ravi's uncanny ability to keep track of and connect so many factors has been one of the greatest assets of the CGIAR."

Ravi had a distinguished career, joining the World Bank Group in 1974, and transferring to the CGIAR Secretariat as Financial Officer in 1984. He rose to head its Finance and Investor Relations Team as Lead Financial Officer. He served on the Boards of IFAR and the CGIAR Gender and Diversity Program. His legacy lies in his overall contribution to the growth and stability of the CGIAR, in the indelible stamp that he left on financial management, in his self-effacing yet effective leadership of the System's network of finance executives, and in his commitment to nurture the talents of others.

The high standards of the System's financial operations draw continuously on the Financial Guidelines series that Ravi planned and inaugurated. He inspired finance executives to advocate and establish instruments of accountability and transparency. He encouraged them to collaborate in the review and preparation of key financial documents, such as the CGIAR Annual Financial Report, and the Annual Medium Term and Financing Plans. He was primarily responsible for developing a conceptual framework for resource allocation, whereby work programs drive resources, not vice versa.

Ravi was fully engaged in the renewal of the CGIAR and, more recently, in the Reform Program that continues to transform the CGIAR. Members and Center representatives frequently turned to him for guidance. He participated in setting up several units of the CGIAR System Office. He campaigned quietly but insistently over many years for greater use of information technology. He anchored the former Finance Committee, and was a pioneer in developing and broadening resource mobilization programs. He was an early proponent of diversity in all its forms. He was unyielding in his dedication to revitalizing IFAR.

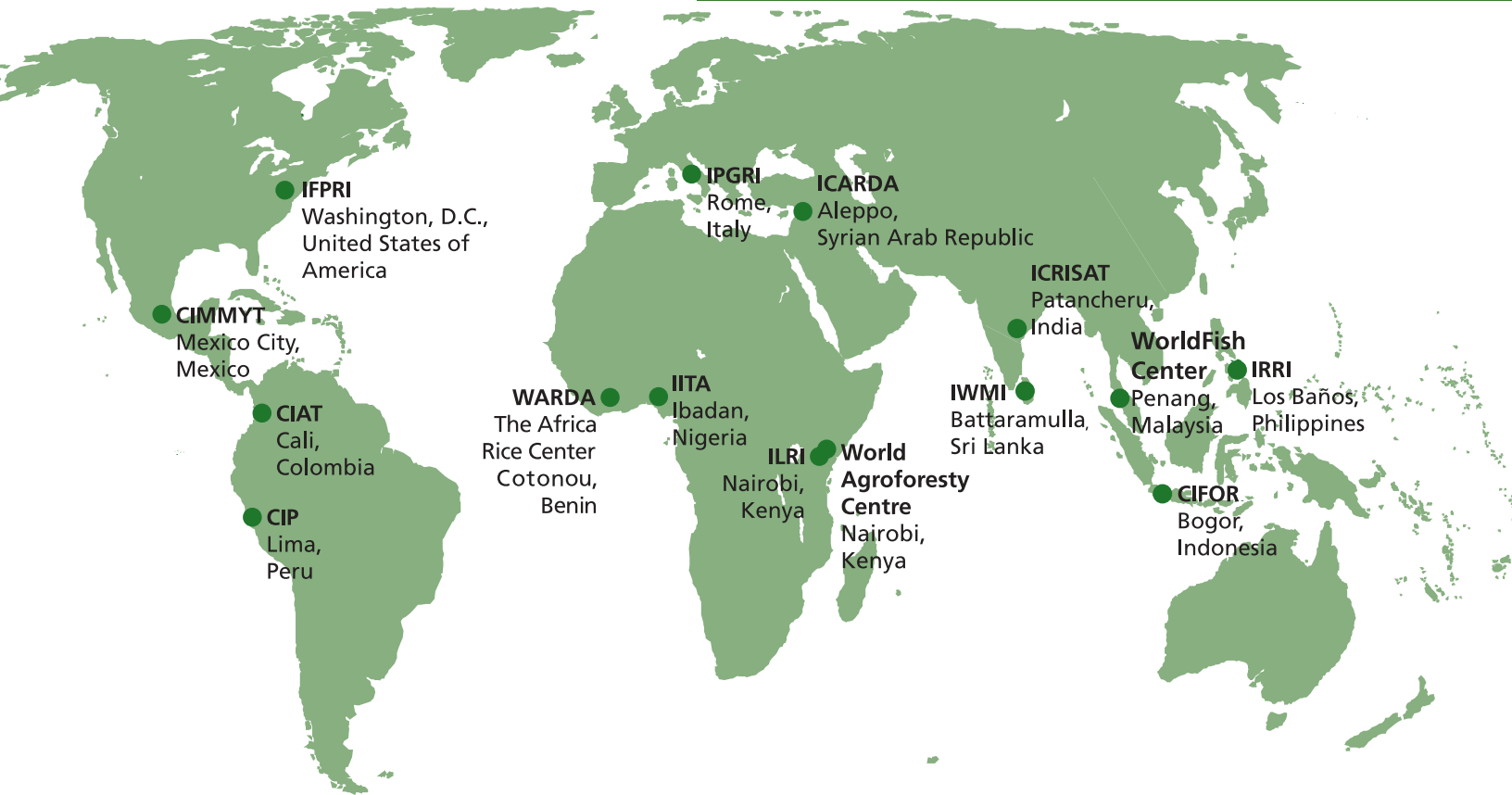
Ravi cared deeply for the entire CGIAR System, respected its intricacies, and had a clear strategic sense of what directions it should take, and at what pace. His true "home away from home," however, was the CGIAR Secretariat, where he spent long hours, sometimes working on his own, often with others, on diverse aspects of the CGIAR, present and future. He earned



the respect and trust of six CGIAR Chairs, two Executive Secretaries, and the current Director. He enjoyed cordial relations with all his Secretariat colleagues, whatever their calling. He appreciated their professional capacities, as they respected his. He was prudent, but embraced innovation. His wise counsel was invaluable. He had steadying words and an engaging smile when they were most needed. He was a great companion; a friend who truly knew what a confidence meant. He will be missed more than words can tell.

As a tribute honoring Ravi's many contributions to the CGIAR, IFAR has established a "Ravi Tadvalkar Memorial Scholarship," and the first scholarship has been awarded to Ms. Namita Srivastava of India for work on screening salinity tolerance in pigeonpea and groundnut in association with ICRISAT. In addition, the CGIAR Secretariat conference room has been named "Ravi Tadvalkar Conference Room."

For more information on IFAR scholarships, [www.ifar4dev.org](http://www.ifar4dev.org) 



## Future Harvest Centers of the CGIAR

Africa Rice Center (WARDA)  
[www.warda.org](http://www.warda.org)

International Center for Tropical Agriculture (CIAT)  
[www.ciat.cgiar.org](http://www.ciat.cgiar.org)

Center for International Forestry Research (CIFOR)  
[www.cifor.org](http://www.cifor.org)

International Maize and Wheat Improvement Center (CIMMYT)  
[www.cimmyt.org](http://www.cimmyt.org)

International Potato Center (CIP)  
[www.cipotato.org](http://www.cipotato.org)

International Center for Agricultural Research in the Dry Areas (ICARDA)  
[www.icarda.org](http://www.icarda.org)

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)  
[www.icrisat.org](http://www.icrisat.org)

International Food Policy Research Institute (IFPRI)  
[www.ifpri.org](http://www.ifpri.org)

International Institute of Tropical Agriculture (IITA)  
[www.iita.org](http://www.iita.org)

International Livestock Research Institute (ILRI)  
[www.ilri.org](http://www.ilri.org)

International Plant Genetic Resources Institute (IPGRI)  
[www.ipgri.org](http://www.ipgri.org)

International Rice Research Institute (IRRI)  
[www.irri.org](http://www.irri.org)

International Water Management Institute (IWMI)  
[www.iwmi.cgiar.org](http://www.iwmi.cgiar.org)

World Agroforestry Centre (ICRAF)  
[www.worldagroforestrycentre.org](http://www.worldagroforestrycentre.org)

WorldFish Center  
[www.worldfishcenter.org](http://www.worldfishcenter.org)