


THE MCKNIGHT FOUNDATION

Collaborative Crop Research Program

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CCRP Quarterly Newsletter

To: The McKnight Foundation grantees
From: Office of the CCRP Program Director
Reporting period: July-September 2006

QN3_06

CCRP News

- We are delighted to announce that The McKnight Board has named Dr. Carlos Perez as the new chair of the CCRP oversight committee. Since Bob Goodman retired from the position at the end of 2005, Sunny Power has served as interim chair. We hope you'll join us in thanking Sunny and welcoming Carlos to the CCRP. Carlos is an Ecological Anthropologist with 20 years of professional experience in research, design and management, and provision of technical assistance for sustainable development and environment projects. He joined the Tropical Agriculture Program of the Earth Institute, Columbia University, in September 2005 as Associate Director for Management. Before that, he served as Director of the Collaborative Research Support Program for Sustainable Agriculture and Natural Resource Management (SANREM CRSP) at the University of Georgia, Athens. From 1993 to 1999, he worked for CARE, one of the world's largest private international relief and development organizations, most recently as Director of Agriculture and Natural Resources. Carlos has worked in 23 countries in Latin America, Asia, and Africa and speaks Spanish, French and English fluently. His research interests include watershed management, agroforestry, biodiversity conservation and natural resource management, and community-based natural resource management. For more information on our new OC chair, visit this link: <http://mcknight.ccrp.cornell.edu/about/governance.html>.
- Another important August appointment: Kate Wolford was named the next McKnight Foundation President. See the "Related News and Events" section for more information.
- Some changes have been made to the annual report format and guidelines. Please read this section of the policies page carefully before submitting your next report! <http://mcknight.ccrp.cornell.edu/about/policies.html#annual>. This is also available in document form on the forms page of the CCRP Web: http://mcknight.ccrp.cornell.edu/participants/participant_forms.html.
- Our current cycle of grant-making has involved funding clusters of projects in food-insecure regions, and supporting them under the concept of "communities of practice" (CoP). The sets of projects in each community of practice exchange visits and meet annually to discuss progress and plans, and to learn about topics of mutual interest. To help with these processes and to facilitate communication

between the grantees and CCRP management, the CCRP has a representative in each region. Claire Nicklin has served as regional representative for the Andes CoP since December 2005. In August 2006, Mamadou Chetima began his role as regional representative for the West Africa Community of Practice. We are currently seeking a regional representative for the new East African Legumes Community of Practice to be based in Malawi, Mozambique or Tanzania.

- At their meeting in August, the board of The McKnight Foundation approved three grants for funding under the Eastern/Southern Africa Legumes Community of Practice. These are briefly described below. Please visit their project web pages by clicking the links for further information.

[Cowpea/*Alectra* \(E/S Africa\)](#)

This project targets poor smallholder farmers in the semi-arid and sub-humid regions of Tanzania and Malawi who produce cowpeas in areas of high infestation of the parasitic weed, *Alectra vogelli*. The project aims to introduce *Alectra* resistance into locally adapted, early maturing, high yielding, pest and disease resistant lines. The most promising lines will be provided to farmer groups with *Alectra* infested land to be evaluated using participatory variety selection methods. The project is coordinated by Dr. A.M. Mbwaga, of Ilonga Agricultural Research Institute, Tanzania. The Malawi activities will be led by Dr. Vernon Kabambe of Bunda College of Agriculture. Other collaborators include scientists from Natural Resources Institute (UK), IITA (Nigeria) and Sokoine University (Tanzania). Collaborators from the non-governmental organizations, INADES Formation (Tanzania) and NASFAM (Malawi) will facilitate the work with farmers' groups.

[Groundnut breeding \(E/S Africa\)](#)

This project will address critical problems affecting groundnut production in Tanzania and Malawi, namely low yields, foliar diseases (rosette, early and late leaf spot and rust), and marketing constraints. The project will have four primary components: diagnostic studies, breeding, variety testing and dissemination and capacity building. Led by Dr. Emmanuel Monyo of ICRISAT-Malawi, the project will be implemented in close partnership with scientists from the Department of Research and Training of the Ministry of Agriculture and Food Security (Tanzania) and with personnel from NASFAM (Malawi), who will contribute expertise in groundnut marketing and small business development to help improve farmer incomes.

[Legume best bets \(Malawi\)](#)

This project, led by Dr. George Kanyama-Phiri of Bunda College of Agriculture (Malawi), builds on farmer participatory research initiatives on legume intensification that are already underway in three representative agroecosystems in Northern and Central Malawi. The project team will document which legumes are preferred by farmers for specific farm niches and use participatory action research approaches to evaluate the legumes' impact on soils, productivity and human nutrition. Key collaborators come from Michigan State University, Ekwendeni Hospital, Farmers Union of Malawi, ICRISAT, Concern Universal and World Vision. Several students (two Ph.D. and one M.Sc.) will also receive extensive scientific and practical on-farm research training as an integral part of the project.

- As reported in the previous Quarterly Newsletter, the second annual meeting of the Andes Community of Practice (CoP) took place July 18-21, 2006 in Tabacundo, Ecuador. This meeting brought together representatives of the eight Andean CCRP projects who exchanged updates on their progress and tackled a series of issues of mutual interest. A panel of invited speakers provided

insights on monitoring and evaluation. Max Ochoa and his colleagues showcased the work of MACRENA, World Neighbors and several other organizations at a fabulous field day that illustrated the concept of CoP very well. The workshop page can be accessed at this link:

http://mcknight.ccrp.cornell.edu/participants/cop2_06/wkshpcop06.html.

- In late September to early October 2006, Rebecca Nelson and Mamadou Chetima visited West Africa Community of Practice projects in Mali and Burkina Faso. They were graciously hosted by members of each of the six projects funded in the region through the CCRP. It was inspiring to see the excellent work being conducted in the labs, on experimental field on research stations and in collaboration with farmers in large numbers of villages.

The visit provided an opportunity for the CCRP representatives to learn about the projects, and also for project partners to meet each other, interact and exchange information. Interesting debates arose among participants, suggesting topics for possible exploration during CoP meetings. Possible themes for the meeting were discussed, as were ways in which the grantees could contribute to the planning of the workshop. It was suggested that a special committee composed of key players from all projects be implemented to help in defining and finalizing the workshop agenda. Mamadou will follow up on the workshop organization.

Some highlights of the trip included:

- For the nutrition-related project “An Be Jigi,” the CCRP representatives met with PI Lina Mahy of Helen Keller International, sorghum breeder Fred Rattunde, and Peace Corps volunteer Kelli Lingle, who will be helping with project management. The group visited laboratory facilities where analyses related to malaria and other health parameters will be conducted. At the food technology laboratories of IER’s Sotuba Station, they met many other project participants and saw the facilities where decortication assays will be conducted, to determine which varieties allow the seed’s embryo to remain after village-level processing.
- In both Mali and Burkina, Mamadou and Rebecca visited field experiments being conducted as part of the dynamic gene pool project. In Mali, they met with sorghum breeders Boubacar Toure and Fred Rattunde, and with millet breeder Moussa Sanogo and his colleagues at IER’s Cinzana station. In Burkina, they met with Clarisse Barro-Kondombo and Kirsten Von Brocke. Farmers are using male-sterile lines to make crosses among diverse materials, obtaining novel recombinants. Project participants are selecting their populations under a range of conditions, including intercropping; water-logged fields; *Striga*-infested fields; and drought.
- The “ALIVE” project focuses on legume integration into millet- and sorghum-based systems in the region. PI Boubacar Traore and colleagues Diarra Aminata and Mahamadou Soumare showed the visitors experiments in Mali aimed at identifying “best bet” legume and cereal cropping schemes. The group visited farmer-participatory trials with ULPC president Daouda Traore, as well as on-station experiments at Samanko and Cinzana.
- Mamadou and Rebecca observed the impressive work being done under the seed systems project in Mali and Burkina. PI Eva Weltzien explained the project’s strategy and took the group to visit participatory experiments of breeding lines; farmer and farmer organizations’ seed production. In Burkina, Kirsten Von Brocke and her colleagues showed their work on improving sorghum seed and making it available to larger numbers of farmers, teaching

- farmers to produce high-quality seed, and linking farmers with processors and other markets. Roger Kabore of the farmer-innovator group “Assoc. Minim Song Banga” explained the full range of stakeholders in the production and utilization of seed and how the project is working to facilitate seed access. In Mali and Burkina, the visitors had the chance to meet with project partners representing farmer organizations working to enhance their members’ access to seeds and markets.
- In both Mali and Burkina, the CCRP reps visited work undertaken under the integrated pest management (millet head miner) project, lead by Ibrahim Baoua. In Burkina Faso, the partner of Baoua, Malick Ba and his collaborators at INERA introduced the activities of the project. The group visited the laboratories in Mali and Burkina where the natural enemy of the millet head miner is cultivated along with its vector, and met with other project participants. In Mali, the group visited experimental millet fields where the natural enemies would be tested.
 - In Burkina Faso, Rebecca and Mamadou visited with the team from Helen Keller International that is working on enhancing the role of orange-fleshed sweetpotato (OFSP) in combating food insecurity and vitamin-A deficiency. Together with Ann Tarini (HKI country director) and Mohamed Ag Bendeche (regional nutrition advisor), they visited field multiplication sites for OFSP and farmer trials of the new varieties. The group visited the clinic where OFSP (both roots and leaves) is being used to rehabilitate severely malnourished children.
- Rebecca Nelson and Kelly Lindsay have moved down the hallway to new offices. Please update your address books with our new contact information:

| | |
|---|---------------------|
| Rebecca Nelson: 303A Plant Science Building | Tel: (607) 254-7475 |
| Kelly Lindsay: 303B Plant Science Building | Tel: (607) 254-6499 |

As before, the rest of our addresses are as follows:
Department of Plant Pathology, Cornell University, Ithaca, NY 14853, USA
 - Major CCRP Web updates took place in this quarter. See the CCRP Web section below for more details.
 - Please see the last section of this update for news from the CCRP projects.

Upcoming CCRP Events

2007

March

5-9 First Meeting of the CCRP's West African Community of Practice, to be held in Niger. Mamadou Chetima will coordinate the meeting. More details will follow as they are developed.

July

16-20 Third meeting of the CCRP's Andean Community of Practice, to be held in Cuzco, Peru. Claire Nicklin will coordinate the meeting. More details will follow.

September

TBD First meeting of the CCRP's East African Community of Practice

More details will follow as they are developed.

December

1-6 Triennial Grantee Conference to be held in Chantilly, France

Planning continues for the next Grantee Conference, which will take place in Chantilly, France in December 2007. Representatives of all active CCRP projects will be invited to the meeting. More details will follow as the meeting is organized.

Related News

- Kate Wolford to be president of The McKnight Foundation. As mentioned above, the board of directors of The McKnight Foundation has named Kathryn ("Kate") Wolford as its next president. Her work as president begins at McKnight on December 1. She will be the Foundation's fourth executive since 1975, when it began hiring staff. Wolford has devoted more than 25 years to helping communities through locally based efforts. Since 1991, Wolford has worked at Lutheran World Relief (LWR), where she was named president after two years as program director for Latin America. Founded in 1945 and headquartered in Baltimore, Maryland, LWR works with grantees and development networks in 35 countries to provide relief and to combat the causes of poverty. LWR became a McKnight grantee in 2004 when the organization received \$60,000 for a sustainable agriculture, natural resource management, and livestock husbandry program for women in Uganda. As with McKnight's own international grant making, LWR's priority is to work with local partners in the communities it serves.
- Gates/Rockefeller initiative in African agriculture. On September 12, 2006, the Bill and Melinda Gates Foundation and the Rockefeller Foundation announced that they will join forces to facilitate a "Green Revolution" in Africa to increase productivity of small farms. This partnership, named Alliance for a Green Revolution in Africa (AGRA), aims to "improve agricultural development in Africa by addressing both farming and relevant economic issues, including soil fertility and irrigation, farmer management practices, and farmer access to markets and financing." AGRA's initial investment of \$150 million will support the Program for Africa's Seed Systems (PASS), whose effort will hopefully improve availability, biodiversity and yield of seeds in the frequently adverse conditions of sub-Saharan Africa. Specifically, PASS will develop improved varieties of African crops, train a new generation of African crop scientists, ensure improved seeds reach smallholder farmers, develop a network of African agro-dealers, and monitor, evaluate and manage all of the above. This article can be accessed at the Gates Foundation website at the link below. <http://www.gatesfoundation.org/GlobalDevelopment/Agriculture/Announcements/announce-060912.htm>
- Interested in rice seed health and/or related topics? The Africa Rice Center (WARDA) has translations of four rice seed health videos, including one on seed drying, in both French and Bambara. These videos were made in Bangladesh and feature rural women. If you are interested in obtaining a copy of these videos, please email Dr. Paul Van Mele at p.vanmele@cgiar.org or let us know.

Related Events (Recent and Upcoming)**2006***November*

5-11 International Symposium on Integrating New Technologies for *Striga* Control, to be held in Addis Ababa, Ethiopia.

Sponsored by International Sorghum and Millet Collaborative Research Support Program (INTSORMIL), Purdue University and Ethiopian Institute of Agricultural Research (EIAR). “The parasitic weed *Striga* (witchweed) is the scourge of agriculture in much of Africa, parts of Asia, and even in the United States. *Striga* attacks the major cereal grains and legumes in sub-Saharan Africa, on average halving the already very low yields of subsistence farmers. The *Striga* problem has been a major reason why crop productivity has remained at or below subsistence, leaving poor farmers with no way out of a situation that is only getting worse.” The symposium is open to all scientists dealing with *Striga* who want to learn and share knowledge. For more information, go to this website: <http://www.agry.purdue.edu/strigaconference/>

20-23 Innovation Africa Symposium, Kampala, Uganda.

An international symposium on agricultural innovation systems in Africa will be held on 20-23 November 2006 in Kampala, Uganda. It is jointly organized by CIAT (International Centre for Tropical Agriculture), IFPRI-ISNAR (International Service for National Agricultural Research division of the International Food Policy Research Institute), ILRI (International Livestock Research Institute), IIRR-Africa (International Institute of Rural Reconstruction) and ProInnova (Promoting Local Innovation). The Innovation Africa Symposium will bring together researchers and practitioners involved in innovation systems to share current thinking and experiences and to draw lessons for research, development, policy and practice of innovation in agriculture and natural resource management in Africa. It will include a field visit on 20 Nov 2006 to sites of farmer innovation and participatory research and development. The field visit will be organized by ProInnova-Uganda and the Ugandan office of IIRR-Africa. For more information, visit www.innovationafrica.net and the ProInnova website www.prolinnova.net

2007*January*

7-12 Seventh International Long-Oligonucleotide Microarray Workshop to be held in Tucson, Arizona. This workshop will comprise a combination of lectures and hand-on laboratory sessions. The participants will primarily employ *Arabidopsis* and maize (plant side) and human, bovine and porcine (animal side) whole genome 70-mer oligonucleotide microarrays in their laboratory work. The workshop will be divided into two parts: Part I will cover wet-lab aspects of microarray target production and amplification, microarray hybridization, and scanning. Part II will concentrate on data extraction, statistical analysis, and experimental design. Together these topics are aimed at the goal of the participants obtaining optimal results using oligonucleotide-based microarrays. For further details and to register, please contact David Galbraith (galbraith@arizona.edu)

- 13-17 Plant and Animal Genome XV. The International Conference on the Status of Plant and Animal Genome Research. This meeting is a major annual event in the world of agricultural genomics. Workshops are scheduled on topics and crops of interest to the CCRP, such as allele mining and genomic diversity; host-pathogen interactions; QTL cloning; millet and sorghum; legumes; wheat; maize; and rice. Vast numbers of posters will be displayed. See the event Web pages for further information (<http://www.intl-pag.org/>)
- 23-27 Linking Knowledge and Action for Sustainable Production and Consumption Systems (The SPACES Dialogue). “Dialogues on Science and Practice in Sustainable Development aims to foster effective collaborations between scientists and practitioners to advance the practice of sustainable development, through knowledge sharing and promoting national, regional, and international actions and implementation.” For more information, click the following link: <http://www.sustdialogue.org/>




March

- 23-27 Second International Conference on Plant Molecular Breeding (ICPMB), Sanya City, Hainan Province, P.R. China. “The 2nd International Conference on Plant Molecular Breeding (ICPMB), will be held in Sanya City, Hainan province, P. R. China on March 23-27, 2007. This event will focus on applied plant genomics and molecular plant breeding in view of the increasing need to use new molecular approaches and mine novel gene resources. All important aspects of plant molecular breeding and related transgenic ecological risk and intellectual property right (IPR) will be covered in several sessions and satellite workshops.” For more information, click the following link: <http://www.icpmb.org/142.html>
- 26-29 Third General Meeting of the Rockefeller Foundation’s program on Biotechnology, Breeding and Seed Systems for African Crops. This meeting will be co-hosted by The Rockefeller Foundation and Mozambique’s Institute for Agricultural Research (IIAM). As indicated on the African Crops Web site (<http://www.africancrops.net/rockefeller/icv3/information.htm>), “The primary purpose of this gathering is to give plant breeders, molecular biologists, and seed specialists linked to The Rockefeller Foundation's Program on African Crops an opportunity to report on progress made since the last meeting in Nairobi, Kenya in January, 2005. The meeting will also serve to demonstrate the most effective methods for crop genetic improvement and seed supply in Africa, and provide program leaders with new opportunities for linking up with efforts at developing better crops for African farmers.”

The CCRP Web is located at... <http://mcknight.ccrp.cornell.edu>

CCRP Web Snapshot

As of 10/17/2006.

- Total number of files associated with the CCRP Web: 1937
- Total number of links: 19256
- Total number of HTML files: 763
- Total number of tagged HTML (those that we update on a regular basis): 223
-  Total number of pages in English: 150
-  Total number of pages in Spanish: 46
-  Total number of pages in French: 27

CCRP Web changes over the past quarter

1. Three new East Africa Legumes CoP pages have been added to the website. See the beginning of this newsletter for descriptions of each.



2. The new 404 redirect page. The CCRP Web is constantly evolving to fit the needs of our users, and sometimes that involves moving or deleting old pages. Instead of using the traditional 404 error page, which bears the somewhat frustrating “page can not be found” message, Kelly have created a 404 page that will automatically redirect web users to our site map. This is especially useful if someone is using old bookmarks or simply entered the wrong web address. We hope that this will allow the user to find what they need on our more comprehensive, outline-style site map.

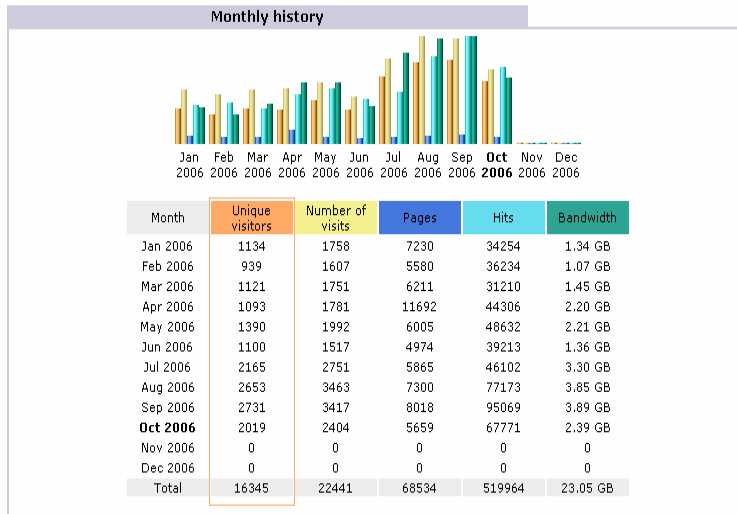
3. Email address removal. Because robots and spiders trawl the Internet for email addresses and use them for spam, Kelly removed every email address on the site except hers.

4. Editing the CCRP Impact page. Kelly moved the available impact statements to the corresponding project pages, with a link on the Impact page. She also added links to CCRP publication lists and is starting to compile CCRP accomplishments lists. The new impact page can be viewed by following this link: <http://mcknight.ccrp.cornell.edu/about/impact.html>

5. Publications lists. Several months ago, we requested a compilation list of McKnight-supported publications from each project. Beth Medvecky formatted these lists, which are now up on their respective project pages. If you have not sent these lists to us yet, please do so!

6. CCRP project home page. Kelly has restructured the project home page and added an interactive map. If you highlight the icons next to each listed project, you will be able to see which countries correspond to each project. If there are any errors, please report them to Kelly Lindsay.

* Not viewed traffic includes traffic generated by robots, worms, or replies with special HTTP status codes.



CCRP Web Statistics

In July-September 2006, we had an average of **2516** unique visitors per month. Unique visitors for each month for 2006 can be seen in the table to the right in the highlighted column.

Since we began reporting our web statistics in 2003, we have included the number of “hits” and “unique visitors” to give our readers a sense of our website traffic. Kathy Rysted brought to our attention that the “hit” numbers we had been reporting were not necessarily a true reflection of website

traffic, and suggested that we do an analysis of CCRP-Web utilization. Beth Medvecky and Kelly Lindsay conducted an in-depth analysis. Beth Medvecky investigated alternative web statistic programs and spoke with the systems administrator at Mann Library, where our website is hosted for recommendations. It turns out that this was a beneficial relationship: we were able to help Mann Library diagnose a rather serious breach in their server security, and they were able to help us set up a new, more powerful website analysis program called AW Stats. With this program, we are now able to determine website traffic excluding robots, worms, and HTTP status code replies; unique visitors, number of visits, number of pages accessed per visit, visitor domains and countries, hosts, robot/spider traffic, duration of visits, most frequently accessed pages, operating systems and browsers, search engine referrals and the search terms used, and HTTP status codes, including “page not found” codes that allow us to diagnose the source of broken bookmarks. Using this new program, Beth wrote an in-depth report of our site usage and ways to improve marketing the site and generating more traffic. We will be working on improving the site and asking for your feedback soon.

Upcoming changes to the CCRP Web

- *Accomplishments section.* Kelly will be working on compiling all CCRP accomplishments as they have been published in the quarterly newsletters. Once these are finished, I will have them translated and updated on a regular basis. Please remember to send your updates every quarter!
- *Trilingual site.* We are still working toward making the site 100% trilingual. Translations of pages into Spanish and French will continue over the next quarter.

Keep checking the site to know what is happening in the CCRP, and **update your project pages regularly!** If you have any impact statements, publication lists, or any other updates, please contact Kelly Lindsay.

Updates from the CCRP Projects. The updates below are published as received. Minimal edits have been made.

Chickpea (India)

- An integrated intraspecific linkage map of chickpea based on SSR as anchor markers was developed using segregation data from F9 recombinant inbred population (JG 62 x Vijay and Vidya x ICC4958) with one common parent. Using 93 individuals from each population, 121 and 127 reproducible and segregating markers were obtained and used for linkage groups in both the populations. These two maps were combined using 26 common markers where in 107 markers were mapped onto six linkage groups at LOD score ≥ 3.0 and maximum recombination fraction of 0.4. This map is being used for QTL mapping of agronomic traits contributing to yield enhancement.

Cover agriculture (Ecuador)

- Various research topics have been developed by students at the PUCE-SI University. Specific topics include:
 - Impact of green manures on potato
 - Impact of green manure on corn
 - Impacts of legumes on animal nutrition
 - Adaptation of different promising chocho lines in the northern part of the country.
- A Farmer Field School (FFS) in organic production of vegetables was undertaken with the participation of 25 farmers in Otavalo. A fundamental part of the work is the application of green manures for soil improvement.
- A water harvesting and efficient irrigation system was designed and implemented in the Chota area. Technologies used are the harvest of water from roofs and other run-off water, geo-membrane tanks, plastic tanks, used tire tanks, distribution of water with local irrigation, in-situ harvest of water with cover crops.

Finger millet (India)

- Three elite finger millet genotypes are in the third year of state multi-location trials, with an average of 5.0 tons per hectare of grain yield.
- Farmer participatory demonstration trials are in progress for the 4th year for rain fed ragi popularization of selected lines in drought prone regions of Karnataka.
- Candidate genes for blast resistance were isolated from leaves of finger millet using cDNA differential display analysis and subsequent sequencing of the clones that differentially expressed. Primers are synthesized for use in selection of resistance plants.
- Partial genomic libraries enriched with micro satellites were developed using *RsaI* restriction endo-nuclease with mixture DNA of Indaf-5 and IE 1012.

- Sixty-one clones from genomic library were sequenced and SSR regions of 2, 3, 4 repeats were identified. 51 sets of primers were synthesized from repeat sequences.
- Validation of primers in parents was carried out for checking polymorphism.
- An initial survey is being carried out to check the spread of new genotypes that is being popularized from last 3 years in the State of Karnataka.

🏠 Insect pest management (Niger)

- Two Farmers Field Schools (FFS) were initiated within GIMEM project activities. One is located in Tokarawa village, in Madarounfa department and the other one in Guidan Gazobi in Aguié department. The FFSs are made up of 40 people, including 10 women. They are operating around an experimental design including the following components:
 - A screening test of 10 varieties for resistance against millet head miner.
 - Soil fertility test allowing to compare the following treatments: Control group without treatment; input of organic manure 5T/ha; input of DAP and urea in microdose.
 - A plot for technological integration compared to conventional practice.

The experimental plots are analyzed every week with an Agro-ecosystem Analysis. A synthesis is presented on poster paper for all participants.

Producers were also trained in breeding *Habrobracon hebetor*. They were given a set of tools. They produced 150 release bags during the cropping season that they put at the disposals of 16 neighboring villages.

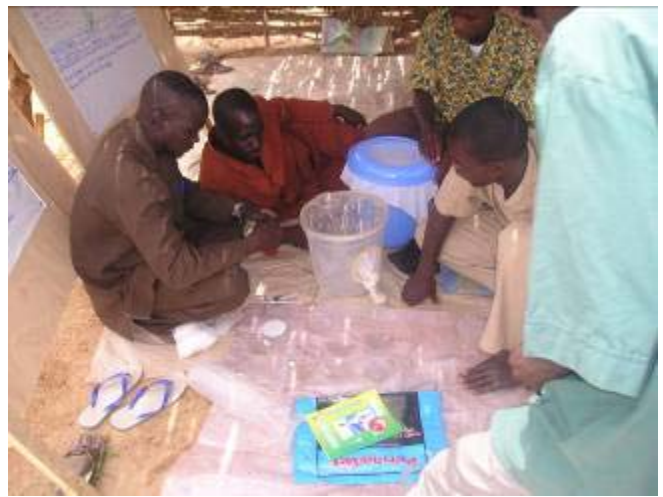
There is an ongoing evaluation of the approach. An open-house was held on Thursday, October 16 at the level of Tokarawa FFF, which brought together administrative and traditional authorities and producers from the 10 villages concerned by the releases.



Lab training session of farmers



Learners of FFS in Tokarawa



Managing breedings of *H. hebetor* in Tokarawa



Learners of CEP Guidan Gazobi

🏠 Lupine/quinoa (Ecuador)

- An “exchange of experience” tour took place on the 7th and 8th of September. Two farms, one at La Merced (Quito, Pichincha) and the other in Ambuquí (Ibarra, Imbabura) were visited with the aim of knowing their experience with “water harvesting” and optimization of the use of water; use of green manures and organic material to improve and maintain the fertility and structure of the soil; and to learn about their implementation and management of integrated faros. Twenty farmers participated in the tour from five communities along with six representatives of INIAP, CODESOCP and CORPOINIAP. From this event we obtained the following conclusions: 1) for areas with low rainfall and their isn’t irrigation, water harvesting systems are a good alternative for guaranteeing the production of food and the sustainability of the farm; 2) the incorporation of green manure and organic material is fundamental for fertility, soil structure and retention of water, and 3) the members of the CIALs (local research groups) are very motivated by what they have observed and some are very anxious to implement similar systems in their communities.

🏠 Native potato (Peru)

- ITDG participated in the Regional Expo Fair Señor de Pampacucho from August 9-15th in the city of Sicuani (the second most important fair in the Cuzco region) where we shared with the public the great variety of native potatoes in the province of Canchis, sold native potatoes, and also presented foods prepared with native potatoes.
- In collaboration with CIP, 116 ecotypes of native potatoes were planted in the Community of Pallcoyo with the aim of carrying out a morphological and molecular characterization of the accessions. Moreover, an automatic meteorological center was installed at CIP to register climatic information from these communities in the high Andes.
- The formation of 30 rural experts called "Kamayoq paperos" was completed in the Kamayoq School that is promoted by ITDG. The course went from November 2005-September 2006. The Kamayoq paperos have begun providing technical assistance to their rural brothers and sisters in the improvement of native potato production in 8 rural communities.
- Second campaign to purchase native potatoes seeds was held. ITDG members and Quechua farmers extension agents (Kamayoq) traveled nine hours by car from Sicuani zone to Chumbilvicas zone, to buy native potatoes from other Quechua farmers. 2,500 kilos were purchased.
- New group of Quechua farmers were evaluated to become extension agents (Kamayoq). Twenty two Quechua farmers (4 women and 18 men) finished a cycle of training to become Kamayoq, so they were evaluated in order to test their knowledge.
- Quechua farmers exchange native potatoes seeds. Quechua farmers from Písaq zone, related to the conservation program named "Potato Park", have decided to visit the Community of Pallcoyo that belongs to the area of ITDG - McKnight project, to give a donation of 50 varieties of native potatoes. Farmers from Pallcoyo, will organize a ceremony for visitors to thanks Mother Earth (Pacha Mama) generosity, and also they will give to them a number of other potato varieties.

- On October 15th, to commemorate Global Nutrition Day the Native Potato Project of ITDG and INIA, participated in the great exhibition of local food made with native potatoes, which was organized by the Ministry of Agriculture in Cuzco, Peru. ITDG had a stand with various foods including native potato pancakes in various colors and a traditional dish. The stand was run by two Kamayoc, and Ing. Cesar Valencia from ITDG and Ing. Miguel Angel Pacheco from INIA-Cusco helped out. The stand was visited by many people, including the Director of INIA and the Director of the Ministry of Agriculture, all who had good things to say about the display.

🏠 Nutrition (Mali)

For HKI:

- During this period, organization of the baseline survey has started: initial contacts with the Malaria Training and Research Centre (MRTC) have resulted in the elaboration of a contract. MRTC will be responsible for the biological chapter of the survey. Draft questionnaires and methodology have been developed and the go-ahead from the Ethical Committee has been obtained. HKI Mali has also attracted a third year Peace Corps Volunteer, Ms Kelli Lingle, to be working on the project. A one day start up meeting (on September 5th, 2006) has been organized at IER, where all partners were present.

For ICRISAT:

- In the period of July to September the sowing of all participatory variety trials was completed and follow up visits conducted by Moussa Kanot and partners ULPC and ACOD. (although there is no funding from An Be Jigi for these activities in 2006).

🐜 P-efficient legumes (China/Mozambique)

- Prof. Jill Findeis and her Ph.D. student Lin Zhang from PSU visited SCAU from June 5 to July 6 to conduct field surveys on possible economic and social impacts of new soybean varieties bred by SCAU scientists in the South China regions. Together with one of our faculty members, Prof. Huixia Cui, and a number of SCAU graduate students, they went to five places of potential soybean production in three provinces of South China. Their surveys and data will provide us a very objective and scientific evaluation of our impacts in the next 3-4 years.
- Dr. Hai Nian from the Root Biology Center of SCAU visited Mozambique and Kenya from July 14-28 to investigate potential soybean production and use in these countries and to facilitate our future CCRP work in Africa. During the trip he met with Mr. Domingos Dias, the leader of research activities at Zonal Research Center and Chief Legume investigator at the Sussundenga Research Station in Mozambique. He also met with a Mozambican trainee, Mr. Anacleto Mart, who would come to SCAU for technical training on soybean breeding and cultivation. Later, Mr. Mart, together with Mr. Guilhermino Boina from Mozambique and Mr. John Mackambo from Kenya arrived at SCAU on August 15. They will stay at SCAU for 4 months for intensive training in basic techniques of soybean breeding, cultivation and processing. They will also participate in some of the research projects currently going on at the Root Biology Center.

- Good news! On September 16, the Chinese Ministry of Agriculture announced the results from the National Variety Certification and 5 new soybean varieties submitted by the Root Biology Center of South China Agricultural University have been officially certified as new varieties. It is quite unusual that so many varieties from one place could pass the national certification at the same time, but our varieties (two spring varieties and three summer varieties) performed exceptionally well with average yield ranging from 2550 to 4575 kg/ha in the two-year official field trials in South China (The average yield of local soybean varieties in South China is about 1200-1500 kg/ha). These varieties were bred for good root traits and thus great adaptability to the low-P acid soils during the first phase of our CCRP project (2001-2005).

🏠 Quinoa (Andes)

- From August 17 through 20th, PROINPA Foundation participated in the "Expo Quinoa III-2006" exhibition, which was organized by the Quinoa producer's organization with the support of the Ministry of Agriculture of Bolivia. At this event, PROINPA presented posters on germplasm bank, quinoa breeding, variety diffusion, integrated crop management and diversified uses of quinoa.
- PROINPA inaugurated their new office and research facility in Quipaquipani, Viacha.
- On August 11, 12, and 13, a total of 30 leaders from 20 -provinces of La Paz were trained to promote quinoa consumption.
- In Colquencha, on September 26 to 27 a series of training course were held for women's organizations including 150 members from Colquencha Locality, Aroma province, La Paz Department.

🏠 Seed systems (Ecuador)

- As part of the July regional Community of Practice meeting, the project supported the implementation of a field day on "food sovereignty," in particular it implemented displays on the management of seeds as local crop genetic resources as well as experiences with alternative exchange and labor markets as means to improving overall farming efficiencies and productivity.
- Ross Borja completed the establishment of a participatory monitoring and evaluation system to capture broad contributions to wellbeing, livelihoods, and empowerment of intended beneficiaries. One innovation of the system was an interactive analysis of nutrition gaps based on data from 24 hour recalls and application of the Nutrisurvey program. A product was the identification of strategic opportunities for responding to them via the strengthening of informal seed systems, to be incorporated into the second and third year plans. Ross has begun to train World Neighbors teams and partners in Bolivia and Peru as means to strengthening overall project monitoring and evaluation at the regional level.
- Frecia Cabrera was employed to develop a participatory "capitalization" system to enable beneficiaries to document their own knowledge and practice on seed systems. She began to

train participants on how to build a knowledge base in each project zone. Initial explorations identified a number of experiences which demonstrate the project's potential. For example, she helped participants document the story of how Samuel Allaica Pucuna of the community of Tzimbuto Quinchahuan in the Province of Chimborazo experimented with potato varieties and vicia-avena seed as a means of green manure for improving soil fertility. The incorporation of the initial green manure crop combined with the use of a new potato variety enabled Samuel to earn extra money and purchase a hectare of land for his children. Participants will apply the "capitalization" system to capture similar experiences with improved knowledge and management of biological resources for improved food sovereignty. Such "stories" will be linked to ongoing grade school bilingual education as well as adult literacy programs.

- Participants implemented community-level processes to review and update initial process design which led to the establishment of the second year operational plan. Following a year of capacity building and exploration on seed systems, the participants identified priority research topics on promising health and agronomic themes associated with the local management of biological resources. The project is presently recruiting national and international students to conduct theses on those themes.
- World Neighbors Ecuador participated in a field day with Macrena with a station on native seeds, oriented towards the beneficiaries of McKnight grants in the Andes.
- A team to support the coordination, documentation, monitoring and evaluation of the seed project has been formed.
- Base line information has been shared with the participating communities.

Sweetpotato breeding (Uganda)

- Drs. Benson Odongo and Robert Mwanga attended a Summer Course on Biosafety Assessment and Regulation of Agricultural Biotechnology at the Institute Plant Biotechnology (IPB) for Developing Countries at Ghent University in Belgium, July 31-August 11, 2006. During the two-week course with theory and practical sessions, the major topics in the field of regulatory and biosafety issues of agricultural biotechnology covered, included, the history of regulatory oversight of biotechnology: biosafety and biotechnology, biosafety evaluation in practice, national biosafety framework development, international platforms for biosafety regulation, the EU Biosafety Regulations and the Cartagena Protocol. Thirty participants from 26 countries attended the course. Dr. Odongo was supported by the Rockefeller Foundation while all the participants from DR. Congo, Burundi and Uganda were supported by the Belgian Government through the joint collaborative research project: Increasing food security in Central Africa by reducing sweetpotato losses due to weevils and viral diseases using biotechnology. The project includes Rwanda, the International Potato Center (CIP) and Ghent University. The ground work on developing transgenic sweetpotato resistant to African sweetpotato weevil has been supported by the McKnight Foundation and Rockefeller Foundation.
- Namulonge Agricultural and Animal Production Research Institute (NAARI) changed the name to Namulonge Crops Resources Research Institute (NACRRI) with the restructuring of

the National Agricultural Research Organization (NARO). Seven of nine new Management Committee for NACRRI met the research team leaders and the Director of NACRRI on September 20, 2006. They were impressed by the power point presentations that were on the on-going research, its impact and challenges. Among the challenges were sustaining and improving the high quality research for greater impact and raising the required resources. That was the first time the Management Committee started conducting NACRRI related business so they addressed the staff briefly, and encouraged the staff to work with the Committee as a team.

- An agricultural show has been held yearly in Jinja town in eastern Uganda. This years' show was held between 18–24 July 2006. The Vice President (VP) of Uganda, Prof. Gilbert Bukenya, on the closing day, July 24, visited the NACRRI stall at the show. The sweetpotato value added products he saw on display impressed him. He then inquired whether the people in the neighborhood of NACRRI were benefiting from the research. Mr. Benjamin Kigozi, a Sweetpotato Program Senior technician based at NACRRI ably explained to him how farmers near the institute were benefiting from sales of storage roots of improved sweetpotato varieties to neighboring markets and from sale of sweetpotato vine cuttings. He further explained that groups in Zirowe not far to the north of NACRRI were benefiting from sale of value added sweetpotato products. The VP then challenged Mr. Kigozi by saying that he would go to see if this was not simply a display, so Mr. Kigozi gladly welcomed him because there is a lot more to see in the field that farmers and consumers benefit from sweetpotato research than at the show.

Tef/finger millet (East Africa)

- Two of the tef research staff at Debre Zeit, Mr. Daniel Jarra and Mr. Gizaw Metaferia, have returned to Ethiopia after completing their MSc. studies in plant biotechnology at Wageningen University, The Netherlands. Their training in molecular biology will have a very big contribution to the tef-component of the project, and fits into the human resources development plan of the Ethiopian Institute of Agricultural Research for biotechnological research.
- The manuscript "Construction of a Genetic Map of Tef (*Eragrostis tef* (Zucc) Trotter)" is now in print in the journal Theoretical and Applied Genetics. Authors are Ju-Kyung Yu, R. V. Kantety, E. Graznak, D. Benscher, H. Tefera, M.E. Sorrells. Another manuscript titled "QTL mapping of agronomic traits in Tef (*Eragrostis tef* (Zucc) Trotter)" is ready to submit to BMC Genomics. Authors are Ju-Kyung Yu, E. Graznak, F. Breseghello, H. Tefera, M.E. Sorrells.
- Dr. Ju-Kyung Yu completed her research associate appointment at Cornell and now has a position with Syngenta in Minnesota. Dr. Mahmoud Zeid was hired to replace Dr. Yu on the new project "Genetic improvement, technology, dissemination and seed system development in African Chloridoid cereals."
- At KARI-Kakamega, the seeds of three varieties of finger millet (P-224, U-15 and Gulu-E) were planted on a quarter of an acre each for increase, which will be used for the on-farm variety demonstration activity. Moreover, 8,546 individual F3 plants were planted from 29 crosses involving eight elite varieties. At ARARI-Adet, 97 germplasm accessions of finger millet were planted for evaluation and the materials are in good condition at present.

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- A paper from the project entitled “Arbuscular mycorrhizal fungi associated with upland rice in a rotational shifting cultivation system”, by Youpensuk S, Yimyam N, Lumyong S, Rerkasem B and Dell B (IRRN 30[December 2005]: 22-23), won IRRI’s 30 years of IRRN best paper award in the soil nutrient and water management category. First (SY) and second (NY) authors completed their PhD with the first project (Thai Rice Biodiversity). In addition to the cash prize, the award includes an invitation and full support for Dr Youpensuk, the first author, to attend the 2nd International Rice Congress on 9-13 October 2006, in New Delhi, India.
- Research team from Thailand (led by PI) joined partners in Lao PDR to develop procedures for interviewing farmers, data collection and collaborative experiments in Vientiane Province, September 29 to October 3, 2006.
- Team of our graduate students from the project (under supervision of Sansanee Jamjod) organized the 44th Royal Golden Jubilee Seminar Series (supported by Thailand Research Fund) entitled “Plant Science Research for Agriculture” at Social Research Institute, Chiang Mai University on September 1, 2006. The seminar was attended by about 70 graduate students and teachers in crop and plant science. A total of 33 papers were presented.
- Graduate students won best paper awards at the 44th RGJ PhD Seminar Series
 - Best oral presentation (Nattinee Phattarakul: Aluminum tolerance in rice varieties from Tee Cha village)
 - Best poster (Tonapha Pusadee: Genetic structure of *Bue Chomee*)
 - Poster, best by popular vote (Prateep Oupkeaw: Gall midge resistance in *Moey Nawng*)
- Visits by collaborating researchers
 - Singty Voradeth, trainee from Vientiane Agricultural Research Centre (Lao partner) arrived for 3 months (August – October) training on evaluation of rice germplasm for Fe toxicity tolerance.
 - Richard Bell from Murdoch University visited the lab (July 31 to August 4, 2006) to take part as an examiner in PhD thesis defense of Nednapa Insalud, discuss research on aerobic rice by MS students Suwannee Laenoi and Jenjira Mongon, and conduct a workshop on poster presentation for graduate students.
- Graduate students associated with project completed studies
 - Nednapa Insalud, PhD in Agronomy, thesis title, “Genotypic Variation in Responses to Aerobic and Anaerobic Condition in Rice”. [Paper from her thesis entitled “*Morphological and physiological response of rice to low P availability in aerated and stagnant solution culture*” has been accepted for publication in *Annals of Botany*]
 - Saicome Pintasen, MSc in Agronomy, thesis title, “Variation and accumulation of grain iron (Fe) concentration in Thai rice varieties”
- PhD student won visiting fellowship award
 - Nednapa Insalud has been awarded a visiting fellowship from the International START Secretariat. After completing her PhD, Nednapha will undertake her visiting fellowship at Murdoch University, Western Australia from October 2006, to work on a project related “*Closing the yield gap for rice in water saving rice production through improved understanding of the adaptation of rice roots to*

changing water regimes”, with our long time Australian partners, Richard Bell, of Murdoch University and Tim Colmer at the University of Western Australia.

- Papers published and presented
 - Prom-u-thai C, Glahn R P, Huang L, Welch R M, Rerkasem B. 2006. Iron (Fe) bioavailability and the distribution of anti-Fe nutrition biochemicals in the unpolished, polished grain and bran fraction of five rice genotypes. *J. Sci. Food Agr.* 86: 1209-1215.
 - Rerkasem K and Rerkasem B. 2006. Agrodiversity: lessons from the highlands of northern Thailand. Pp. 1-14, in *Small-Scale Livelihoods and Natural Resource Management in Marginal Areas of Monsoon Asia*, Saxena K G, Liang L, Kono Y and Miyata S. Eds. Bishen Singh Mahendra Pal Singh Publishers, Uttaranchal, India.
 - Barbara Schaal, Anbreen Bashir, Sansanee Jamjod, Wesley Leverich, Jason Londo, Chanya Maneechote, Sunisa Nirantraiyakun, Benjavan Rerkasem, Sonal Singhal. 2006. Introgression and Gene Flow in Asian Rice. Presented (by BS) at the 9th International Symposium on Biosafety of Genetically Modified Organisms, 24 – 29 September 2006, Seoul, Korea, organized by the International Society for Biosafety Research